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ORIGINAL COMMUNICATIONS.

I.

Sketch of the LIFE *and* CHARACTER *of the late* BENJAMIN RUSH, M. D. LL. D. *Professor of the Institutes and Practice of Medicine in the University of Pennsylvania, &c. &c.*

(With an Engraving, by Leney.)

WE submit, with great deference to the public, the following hasty and imperfect sketch of the life of that ornament of science and of human nature, the late illustrious Doctor Benjamin Rush. We have accompanied it with an engraving from a painting in the possession of Dr. Hosack, executed by that distinguished American artist Mr. Sully, a short time previous to the death of Doctor Rush; and in which will be seen, most accurately depicted, the lineaments of that mind which we have feebly attempted to delineate.

Benjamin Rush was born near Bristol, in the state of Pennsylvania, on the 5th of January, 1745. His ancestors belonged to the society of quakers, and were of the number of those who followed the celebrated William Penn to Penn-

sylvania, in the year 1683: his grandfather, James Rush, resided on his estate near Philadelphia, and died in the year 1727: his son, who was the father of the subject of these memoirs, inherited both his farm and his trade, which was that of a gun-smith. He died while Benjamin was yet young. His widow, a most excellent woman, upon whom the education of young Rush thus necessarily devolved, placed him, at an early age, under the direction of the late Rev. Samuel Finley, at West Nottingham, in Chester county, Pennsylvania, by whom he was taught the rudiments of classical knowledge. Dr. Finley, afterwards better known as the president of Princeton College, New-Jersey, was an able scholar and faithful teacher, and, being also related to Mrs. Rush, may be supposed to have paid great attention to the improvement of his young pupil. But whatever may have been the assiduity with which his education was directed by his preceptor, he possessed an ardent desire for knowledge, and was most unwearied in the pursuit of it.

From the academy of Dr. Finley he was removed to the college of Princeton, where he finished his classical education, and was admitted to the degree of A. B. in 1760, when he had not yet completed his sixteenth year. He was now left to choose a profession, and in the choice which he made he doubtless was actuated by conscientious motives. He seems to have fully known his own character, and to have formed a proper estimate of his talents, and by applying them to the science and practice of medicine, to have been desirous of doing all possible good to the family of mankind. That he was directed by these motives, may be inferred from his own opinion of the utility of medicine. "So great," says he, "are the blessings which mankind derive from it, that if every other argument failed to prove the administration of a providence in human affairs, the profession of medicine would be fully sufficient for that purpose."

He accordingly, soon after leaving college, placed himself under the care of the late Dr. John Redman, of Philadelphia, a gentleman who had deservedly obtained an extensive share of professional business, and who was justly considered an excellent practitioner. With Dr. Redman young Rush continued some time, zealously engaged in the acquisition of the several branches of medicine. At that day, however, no institution for the purpose of medical instruction was established in Philadelphia, and his thirst for knowledge being rather excited than gratified with what he had learned from his preceptor, he formed the resolution of going abroad in order to avail himself of those advantages which were not within his reach in this country. The university of Edinburgh, at that time, was at the zenith of its reputation, and justly boasted of its able professors, among whom were the elder Munro, the elder Gregory, Dr. Cullen, and Dr. Black. Thither Rush repaired, and was graduated M. D. in 1768, after having performed the usual collegiate duties with much honour, and published his inaugural dissertation *De Concoctione Ciborum in Ventriculo.* In this performance he candidly acknowledged himself indebted, for many of the opinions which he advanced, to his distinguished teacher Dr. Cullen.

About the period of Dr. Rush's return to his native country, the first attempt was made in Philadelphia for the organization of a medical school. Lectures on anatomy and surgery had indeed been delivered, in that city, in 1763 and 1764, to a small class of pupils, by the late Dr. William Shippen, who, two years previous, had returned from Europe, where he had completed his education under the direction of the celebrated Dr. William Hunter; and, in 1765, Dr. John Morgan, also, gave instruction on the institutes of medicine and the practice of physic. Three years after this, the venerable Dr. Kuhn, who had been a pupil of the il-

lustrious Linnæus, and had preceded Dr. Rush in his medical honours at Edinburgh only one year, was made the professor of botany and the materia medica. To this list of teachers, Dr. Rush himself was added as professor of chemistry, immediately upon his arrival from England in 1769. Such was the first organization of the medical college of Philadelphia.

That Dr. Rush had, in an eminent degree, the qualifications of a teacher, and discharged with exemplary fidelity the important duties belonging to the elevated station to which he was chosen, the popularity attending his lectures, the yearly increase in the number of his hearers, and the unexampled growth of the college with which he was connected, bear ample testimony. Shortly after this period, he was elected a fellow, and also one of the curators of the American Philosophical Society.

While Dr. Rush was thus engaged in the active pursuits of his profession, the dispute of the then American colonies with Great Britain arose. Considering the claims of the British government unjust, he entered with warmth into the defence of the rights of his countrymen. His talents were already well known, and the fullest confidence was placed in his integrity and patriotism. The crisis demanded his services; and in the year 1776 he was chosen a member of congress for the state of Pennsylvania, and, on the 4th of July, with eight other delegates from that state, he signed the instrument of independence. Upon the 11th day of April, 1777, he was appointed surgeon general of the military hospital in the middle department. His colleague in the medical school, Dr. Shippen, on the same day was appointed director general of all the military hospitals for the armies of the United States, and Dr. J. Jones was made physician general of the hospital in the middle department. The office of surgeon general was not long held by Dr. Rush;

He indeed fulfilled the duties of his appointment with all the promptitude suitable to the exigency of the times; but as he had more particularly directed his studies to the practice of physic, and deemed himself better prepared to watch over the concerns of the medical department, he gave a decided preference to a station of that kind. His wishes were soon granted, for upon the 1st of July, 1777, he was created physician general of the hospital, in the middle department, in the room of Dr. Jones.

On the 6th of February ensuing, Dr. Rush resigned the station of physician general and Dr. William Brown was appointed in his place. We shall here forbear any remarks upon Dr. Rush's resignation, nor shall we offer any conjectures as to the causes which led to it. We are certain he did not quit the public service on account of any difficulties incident to the office, or from any want of inclination to promote, by every honourable means, the cause of his country. Serious disputes had arisen among the heads of the medical staff, and there existed many heavy charges of impropriety of conduct on the part of the managers of the hospital stores, which eventually terminated in an investigation by a court of inquiry. The character of Dr. Rush remained unsullied, and being determined to remain free, even from the suspicion of mal-conduct, he totally withdrew himself from the hospital department.

Doctor Rush, however, still continued to take an active part in the politics of the state to which he belonged. The original government of Pennsylvania is known to have been perfectly unique in its form, and the constant source of incalculable mischief. The house of representatives, chosen annually by the people, and on which there was no check, was the sole legislative power; and each succeeding assembly often made it their business to undo all that their predecessors had done. This kind of government was justly

reprobated by Dr. Rush, and the necessity and wisdom of a reformation in it was too apparent not to be attempted.—Dr. Rush, and many other distinguished abettors of the cause, had soon after the satisfaction of seeing a new form of government established in Pennsylvania, by a general convention of the people.

He who has acquired a high reputation in pursuits which do not belong to his profession, is doubly obligated to establish a character as a successful cultivator of that art or science to which his primary attention may have been directed. Of this circumstance Dr. Rush was fully aware: he was already acknowledged an able teacher and practitioner of medicine; but he had also devoted a considerable portion of his time to politics and legislation, and well knowing that the science of medicine afforded ample room for the deepest researches of human intellect, and abundant opportunity for the display of the greatest talents, he formed the resolution of retiring from political life, and of devoting the remainder of his days, with increased ardour, to his profession. He was still further induced to this resolution, from the consideration of the state of medicine in his native country at that time, which, it is scarcely necessary to remark, was in a very low condition. Happy for medical science and the interests of humanity, that he so early formed such a resolution, and that he was so steady, uniform, and indefatigable in the accomplishment of it.

During the long and brilliant career of Dr. Rush's life, from this time to its termination, he may be considered as exclusively occupied in duties pertaining to his profession, and not unlike another Howard, in "surveying the mansions of sorrow and pain," and in mitigating and removing the distresses of all within his power. His biography, therefore, like that of most other scientific men, consists chiefly in a history of his professional labours. How numerous and im-

portant his services, as an author, have been, will be readily seen from a brief detail of his writings, which we shall attempt to give, as nearly as practicable, in chronological order.

The first fruits of his professional labours, as an author, was an account of the effects of the Stramonium, or thorn apple: this appeared in the year 1770, and was published in the transactions of the American Philosophical Society, vol. 1st. The same year he addressed a letter, on the usefulness of Wort in ill conditioned ulcers, to his friend Dr. Huck, of London, which was published in the Medical Observations and Inquiries of London, vol. 4th. In 1774 he read, before the Philosophical Society, his interesting Inquiry into the Natural History of Medicine among the Indians of North America, which formed the subject of an anniversary oration. He this year again addressed another letter to Dr. Huck, containing some remarks on Bilious fevers, which was printed in the London Medical Observations and Inquiries, vol. 5th. To this succeeded his account of the Influence of the Military and Political Events of the American Revolution upon the Human Body, and Observations upon the Diseases of the Military Hospitals of the United States, which his situation in the army eminently qualified him to make. In 1785 he offered to the Philosophical Society of Philadelphia an Inquiry into the Cause of the Increase of Bilious and Intermitting Fevers in Pennsylvania; published in their transactions, vol. 2d. and soon after, in quick succession, appeared Observations on Tetanus, an Inquiry into the Influence of Physical Causes upon the Moral Faculty, Remarks on the Effects of Ardent Spirits upon the Body and Mind, and his Inquiry into the Causes and Cure of the Pulmonary Consumption. About this time, also, appeared his paper entitled Information to Europeans disposed to migrate to the United States, in a letter to a

friend in Great Britain; a subject which had already occupied the attention of Dr. Franklin, but which Dr. Rush considered still further deserving notice, on account of the important changes which the United States had lately undergone. To this paper followed his Observations on the Population of Pennsylvania, Observations on Tobacco, and his Essay on the Study of the Latin and Greek Languages, which was first published in the American Museum of Philadelphia. This last mentioned paper, which has been the fertile topic of much animadversion, was, with several other essays of Dr. Rush, and his Eulogiums on Dr. Cullen and the illustrious Rittenhouse, the former delivered in 1790, the latter in 1796, embodied in an octavo volume, entitled Essays, Literary, Moral, and Philosophical, and published in 1798.

In 1791, the Medical Colleges of Philadelphia, which, on account of certain legislative proceedings, had existed as two distinct establishments since the year 1788, became united under the name of the University of Pennsylvania; and Dr. Rush was appointed to the chair of the professorship of the institutes of medicine and clinical practice. He now gave to the public his Lectures upon the Cause of Animal Life. The same year he presented the Philosophical Society his Account of the Sugar Maple Tree of the United States, which was published in their transactions, volume 3d; and in 1792, Observations, intended to favour a supposition that the Black Colour of the Negro is derived from Leprosy; published in their Transactions, volume 4th.

The year 1793 is memorable in the medical annals of the United States, from the great mortality occasioned by the yellow fever, which prevailed in the city of Philadelphia, and the history of that epidemic, which was published by Dr. Rush in 1794, cannot be too highly valued, both on account

of his minute and accurate description of the disease, and the many important facts he has recorded in relation to it. It was comprised in one volume octavo, and has undergone several editions, and been extensively circulated in the Spanish and in the French language. About this period, also, he offered to the medical world his observations on the Symptoms and Cure of Dropsy in general, and on Hydrocephalus Internus; an Account of the Influenza, as it appeared in Philadelphia in 1789, 1790, and 1791; and Observations on the State of the Body and Mind in Old Age. In 1797 came out his Observations on the Nature and Cure of Gout, and on Hydrophobia; an Inquiry into the Cause and Cure of the Cholera Infantum; Observations on Cynanche Trachealis, &c.

It is proper to state, as connected with the literary labours of Dr. Rush, that in 1788, many of his medical papers were collected together, and that he offered them to the public under the title of Medical Inquiries and Observations, volume first. These he from time to time continued, embracing most of the writings above enumerated, besides observations on the climate of Pennsylvania, and some others, until a fifth volume was completed in 1798. In 1801 he added to his character as a writer, by the publication of six Introductory Lectures to a course of Lectures upon the Institutes and Practice of Medicine, delivered in the University of Pennsylvania. In 1804 a new and corrected edition of his Medical Inquiries, &c. was printed in four volumes, octavo. In 1806 he also published a second edition of his Essays. In 1809, such was the demand for the Medical Inquiries and Observations, he again revised and enlarged the work throughout, and enriched the medical profession with a third edition. In this edition he continued his several histories of the yellow fever, as it prevailed in Philadelphia from 1793 to 1809. It also contained a Defence of

Blood-letting, as a Remedy for certain Diseases; a view of the comparative state of Medicine in Philadelphia between the years 1760 and 1766, and the year 1809; an Inquiry into the various sources of the usual forms of Summer and Autumnal Diseases in the United States, and the means of preventing them; and the recantation of his opinion of the Contagious nature of the Yellow Fever.

He now formed the idea of selecting some of the best practical works for republication in America, and in order to render them more useful, of adding to them such notes as might the better adapt them to the diseases of his own country. His editions of Sydenham and of Cleghorn were published in 1809, and in 1810 appeared those of Pringle and Hillary. In 1811 appeared a volume of Introductory Lectures, containing those he had formerly published, with ten others delivered at different years before his class, and also two upon the pleasures of the senses and of the mind. His work upon the Diseases of the Mind, which had long and ardently been looked for, was next added to his writings. It appeared towards the close of 1812, in one volume octavo. The last effort of his pen was a letter on Hydrophobia, containing additional reasons in support of the theory he had formerly advanced, as to the seat of the disease being chiefly in the blood-vessels. It was addressed to Dr. Hosack, and written not many days before his fatal illness.

While thus assiduously engaged in enriching medical science with the valuable fruits of his long and extensive experience, and in the active discharge of the practical duties of his profession, he was, on the evening of the 13th of April, seized with symptoms of general febrile irritation, which were soon accompanied with considerable pain in his chest. His constitution was naturally delicate, and he had acquired, from previous illness, a predisposition to an affection of his lungs. He lost a moderate quantity of blood, by which he

felt himself considerably relieved. But his strength was not sufficient to overcome the severity of his complaint: the beneficial effects resulting from the most skilful treatment were but of temporary duration. His disease rapidly assumed a typhus character, attended with great stupor and a disinclination to conversation. In other respects, however, he retained his faculties, and the perfect consciousness of his approaching dissolution. On Monday evening ensuing, after a short illness of five days, and in the 69th year of his age, he ended his truly valuable and exemplary life. His death was the subject of universal lamentation, and he was followed to the grave by thousands, who assembled to bear testimony to his excellence.

In January, 1776, he married Miss Julia Stockton, daughter of the Hon. Judge Stockton, of New-Jersey, a lady of an excellent understanding, and whose amiable disposition and cultivated mind eminently qualified her as the companion of Dr. Rush. Thirteen children were the fruits of their marriage, nine of whom still survive. Two of these are chosen to offices of high respectability in the general government of the United States.

It were no easy task to do adequate justice to the great talents, the useful labours, and the exemplary character of Dr. Rush. From the preceding sketch, it is presumed, some idea may be formed of his incessant devotedness to the improvement of that profession of which he was so bright an ornament. His merits, as a practitioner, are too well known to need particular notice: he was fully aware of the great responsibility attached to the medical character, and uniformly evinced the deepest solicitude for the recovery of his patient. His kindness and liberality in imparting aid to those from whom no remuneration was ever to be expected was unbounded, and arose from the generous impulse of his nature, the cordial concern he felt in whatever affected the

interests of his fellow creatures. His mind was of a superior order: to a perception naturally ready and acute, he united a discriminating judgment, a retentive memory, which was greatly improved by habits of close attention, a brilliant imagination, and a highly cultivated taste. He possessed a comprehensive understanding; his knowledge was varied and profound, and he eminently excelled in the several departments of his profession. In his assiduity and perseverance in the acquisition of knowledge he had no superior, and few equals. Accustomed to constant and regular exercise, his intellectual powers acquired additional vigour from employment. Notwithstanding the great fatigue he had to undergo in the discharge of the practical duties of a laborious profession, and the constant interruptions to which he was exposed, when engaged in his pursuits as an author, he never for a moment abated of his ardour in the cause of science. His habits of punctuality to every kind of business in which he was employed, added to a judicious arrangement of time for his multifarious occupations, secured to him sufficient leisure for the publication of those works which have given such celebrity to his name.

His writings claim our attention, both on account of their extent and their variety. Instead of being a mere collator of the opinions of others, he was constantly making discoveries and improvements of his own, and from the results of his individual experience and observation, added more facts to the science of medicine, than all who had preceded him in his native country. His description of diseases, for minuteness and accuracy of detail, cannot be exceeded, and may safely be regarded as models of their kind. In the treatment of gout, dropsy, consumption of the lungs, and the diseases of old age, he enlarged our views of the animal economy, and threw more light upon the peculiar character of these afflicting disorders, than is to be derived from the

investigations of any other writer. His volume on the diseases of the mind, in as far as it exhibits the infinitely varied forms which those diseases exhibit, is a storehouse of instruction. Had his labours been limited to these subjects alone, his character would deservedly have been cherished by future ages. His reputation, however, will permanently depend upon his several histories of the epidemics of the United States, which have rendered his name familiar wherever medical science is cultivated, and will hereafter cause to be inscribed upon the same imperishable column that bears testimony to the merits of Sydenham and Boerhaave, the illustrious name of BENJAMIN RUSH. The respect and consideration which his publications procured for him among his contemporaries, was such, that the highest honours were accumulated upon him in different parts of Europe, as well as in his own country, and he was admitted a member of many of the most distinguished literary and philosophical associations.

There are other qualities which still more entitled Dr. Rush to our respect and esteem. In private life, his disposition and deportment were in the highest degree exemplary. Admired and courted for his intellectual endowments, he riveted to him the affections of all who enjoyed the pleasure of an intimate acquaintance. The affability of his manners, the amiableness of his temper, and the benevolence of his character, were ever conspicuous. He was ardent in his friendships and forgiving in his resentments, and yet entertaining a due regard for himself and a high sense of honour, he possessed a manly independence of spirit which disdained every thing mean and servile. He had an extraordinary command of language, and always imparted his thoughts in a peculiarly impressive and eloquent manner. Those who had the happiness to experience the delights of his conversation, will long recollect, with pleasure, his unassuming modesty,

and the rich stores of knowledge he poured forth on the most instructive topics. Even when his opinions were solicited, they were given, not as the dictates or admonitions of a superior, but as the kind advice of a friend and equal. He never evinced any of that haughtiness and affectation of importance, which sometimes attaches to men of eminence, and which so materially lessens the pleasures and comforts of social life.

He was a believer in christianity from an examination of its principles and the deepest conviction. The purity of its doctrines and the excellence of its precepts was a frequent topic of his conversation: its practical influence upon his conduct through life he often acknowledged, and cherished with a fervent hope the animating prospects it affords. His writings, in numerous places, bear testimony to his christian virtues; and in a manuscript letter, written a short time previous to his fatal illness, and now before the writer of this imperfect sketch, he candidly declares that he had "acquired and received nothing from the world which he so highly prized as the religious principles he received from his parents." It is peculiarly gratifying to observe a man so distinguished in a profession in which, by the illiberal, religious scepticism is supposed to abound, directing his talents to the maintenance of genuine piety, and the enforcing of christian virtue. To inculcate those principles which flow from the source of all truth and purity, and to impart them as a legacy to his children, was an object dear to his heart, and which he never failed to promote by constant exhortation and the powerful influence of his own example.

There is one particular circumstance in the character of Dr. Rush, which we cannot permit to be passed over without observation: we allude to the union, so eminently conspicuous in him, of the eminent practitioner, and the able and voluminous writer. We know that doubts have been studiously

inculcated, as to the practicability of such union; we apprehend with very little regard either to reflection or observation. For ourselves, we would scarcely have believed that these doubts could ever have arisen from any other source than ignorance and indolence, had we not, at times, heard them suggested by men who lay claim to some notice in their profession. Is it not obvious that he only is competent to describe, with discriminating accuracy, the history of disease, who had been an eye-witness to what he relates, and that a faithful exhibition of the infinitely varied form, the minute changes and terminations of morbid action, the operation of remedies and their effects, must come from him alone who is practicably conversant with the bedside of the sick. But let us appeal to the stronger evidence of facts: From whom has medical science received its chief contributions, and who are the great writers in medicine? Among the many who might be enumerated we will mention Sydenham, Boerhaave, Hoffman, Mead, Pringle, the Hunters, Pott, Cullen, Bell, Heberden, Fordyce; and Munro, Duncan, Gregory, Baillie, Blane, and Chisholm. Is the youngest tyro in the profession ignorant that these distinguished writers are among the most eminent practitioners of their day?

We sincerely hope and believe that the ingenuous youth of our country, who enter upon the study of medicine, will never be influenced by the opinions of those who maintain that he whose mind is stored with various learning is, on that account, the less qualified to discharge the duties of an able physician; nor, we trust, can they respect the wisdom of those who would depreciate the character of that practioner, who, while in the exercise of his professional skill, endeavours still further to render himself useful to the world by communicating the results of his own experience and observation. Such views of the profession of medicine, we are confident, can occur to those only whose intellects are render-

ed torpid by sloth or indifference, or whose minds have become so sordid as to be exclusively actuated by the love of gain. Let our youth, then, be excited by the powerful example of Doctor Rush, to form an exalted opinion of the dignity and usefulness of the profession, and let them support that dignity and exemplify that usefulness by the same active exertions in the cause of science and humanity, that have characterized this able and learned physician.

II.

Remarks upon the HYDROPHOBIA, *in a letter to Dr.* DAVID HOSACK, *of New-York, from* BENJAMIN RUSH, M. D. *Professor of Medicine in the University of Pennsylvania. Dated,*

Philadelphia, March 15, 1813.

DEAR SIR,

In the fourth volume of my Medical Inquiries and Observations I have endeavoured to prove, that the disease produced by the bite of rabid animals is a state of fever, seated chiefly in the blood-vessels, but extended, in a certain degree, in common with several other states of fever, to the nervous and muscular systems. In the course of the last winter I received a pamphlet from Dr. Schoolbred, a British physician in Calcutta, containing an account of four cases of hydrophobia, the histories and cures of which favour the opinion I have published of the nature of that disease, and of the remedies that are calculated to cure it. The first of these cures was performed by Mr. F. Tymon, the second by Dr. Schoolbred, and the other two by Dr. Alexander Berry.

The symptoms of the disease, as described by the two former gentlemen, strongly marked its febrile nature. They were chilliness, a warm skin, a pulse beating from 104 to 110 strokes in a minute, eyes and face suffused with blood, head-ach, and, occasionally, delirium.

The remedies employed by them were,

1. Bleeding to fainting, or until the pulse was scarcely perceptible. The effects of this remedy were, an ability to swallow liquids; bilious discharges from the bowels; a reduction of the frequency of the pulse; a sense of heat, and a desire to be fanned; and lastly, sleep, a relief seldom or never experienced in this disease. The blood drawn in the case described by Dr. Schoolbred, was of a scarlet colour, and such as marks the second grade of malignant fevers.

2. Immediately after bleeding, calomel and opium were given in large quantities; the latter in tincture by way of clyster, and by the mouth, in the form of pills. A blister was applied to the forehead in one of the cases with advantage.

The two cases of cures performed by Dr. Berry were of a milder nature. They yielded to purges, injections, mercury and blisters, without the aid of blood-letting. I know it is common not to admit any case of disease, from the bite of a rabid animal, to be hydrophobia, unless all the symptoms recorded in books attend it. We do not reason in this manner in other febrile diseases. We admit of different degrees of violence and danger in the plague, in the bilious fever, and in the small pox. Why should we not admit them in the fever which has received the name of Hydrophobia?

Upon the two cures performed by Mr. Tymon and Dr. Schoolbred, I shall now make a few remarks.

Pathologists have described what they call a soap bubble pulse, that is, a pulse possessing a transient vigour, and such as seldom requires much bleeding to reduce it. There is in like manner a soap bubble state of fever, apparently violent in its first stage, but which soon passes into the prostrate, typhus, or gangrenous states of fever. The bilious fever in the southern states, we are told, frequently exhibits this transition from an active to a feeble state of the arterial system. This soap bubble form of disease appears likewise in

madness when it occurs in hard drinkers. After one or two bleedings, which are called for by the pulse, the system sinks into a prostrate state, and unless it be restored by prompt and liberal doses of opium, volatile alkali, and in some cases by ardent spirits, the disease sometimes terminates in death. Now, the hydrophobia appears to be a fever of this kind.—No sooner is the soap bubble form of the disease reduced by bleeding, than the system sinks as it does after bleeding for drunken madness, and calls for the immediate exhibition of all the remedies commonly employed in the prostrate, typhus, and gangrenous states of fever. The loss of blood in Dr. Schoolbred's patient was but forty ounces; in Mr. Tymon's a less quantity. But there may be cases in which the disease may come on with such symptoms of prostration, as to forbid bleeding altogether, and to require the immediate exhibition of the most cordial and stimulating remedies.—Again, there may be cases, that will yield to depletion by purging and sweating only, and in which bleeding may be hurtful. There may be cases in which bleeding may be forbidden in the beginning, and called for in the close of the disease; and lastly, there may be cases in which the symptoms may require the loss of the same quantity of blood that is required to cure an inflammatory pleurisy or yellow fever. Exactly the same variety in the symptoms and in the order of their appearance, also in the indications of cure, occur in fevers from nearly all their causes. But why have I supposed such cases of Hydrophobia to be possible? They are to be met with in books, and it is only where the remedies have been accurately and promptly accommodated to the state of the system in each of them, that a cure, either by accident or design, has ever been performed of that disease.*

* Mr. Nicholas Nancrede, student of medicine in our university, has lately fa-

In favour of the practice I have recommended for the cure of hydrophobia, let us recollect the different issue of the treatment of the small pox and gout since they have been brought under the dominion of the unity of fever, compared with their issue while they were considered as specific diseases. Ages passed away in fruitless attempts to discover remedies that should destroy by mixture, or expel from the system, the poison of the small pox. It was by boldly renouncing them all, and treating that disease as a state of fever, by bleeding and cool air, or by cordial remedies, according to the state of the system, that Dr. Sydenham obtained a partial victory over it. Paroxysms of the gout have in like manner been relieved and cured by rejecting the use of remedies which have been supposed to destroy a specific acrimony, or a specific morbid action, and by exhibiting the common remedies for fever, suited to its different grades and seats. To expect a cure for hydrophobia by any other means, is to renounce not only reason, but all experience in medicine.

I shall conclude my letter by mentioning, that several cases have lately occurred under my notice, or within my knowledge, in which there was good reason to believe, from circumstances, that the excision of the part many days, and in one instance six weeks after the wound was inflicted by a rabid animal, prevented the disease. When patients object to this radical preventive, or to the application of a caustic, perhaps moderate depletion by bleeding, purging and sweating medicines, and low diet, would have the same effect in

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voured the author with a sight of a copy of a dissection of a patient that died of hydrophobia in Paris, in whom marks of considerable inflammation were discovered in the upper part of the medulla spinalis. It is possible disease in that part may be the cause of the difficulty in swallowing liquids, and of the spasmodic affection of the larynx. The above dissection suggests the propriety of drawing blood by cups from the upper part of the spine, or of applying stimulating liniments, blisters, or caustics to it, according to the state of the system.

mitigating the disease, or preventing it altogether, that they have in lessening the violence of the small pox, or preventing an attack of the yellow fever. Cases of the success of the first three of those remedies in seven persons bitten by a mad dog, have been transmitted to us from the high and respectable authority of Dr. Hillary, in his Observations upon the diseases of Barbadoes.*

From, Dear Sir,

yours truly, and very respectfully,

BENJAMIN RUSH.

DR. HOSACK.

III.

Account of the EPIDEMIC PNEUMONIA, *which lately prevailed at Albany, and at other parts in the state of New-York, in a letter to* JOHN W. FRANCIS, M. D. *Fellow of the College of Physicians and Surgeons, New-York, &c. from* JAMES LOW, M. D. *Member of the Society for the Promotion of Useful Arts in the State of New-York, &c. Dated, Albany, June 1st,* 1813.

THE public attention has been much excited, and considerable alarm been produced, by the epidemic which has, for some months, prevailed in this state; first on the northern and western frontiers, and chiefly confined to the army; but gradually extending, and pervading nearly every part of it. Of this epidemic, which has proved a scourge to the soldier and the citizen, I propose giving a brief historical account, as I have seen it myself, and as numbers of my pro-

* Those persons took at the same time musk, cinnabar and camphor, but from their inefficacy in similar cases, when used alone, no benefit can be ascribed to them.

fessional friends have observed it, without any bias, from previous communications on the subject, or any regard to theory, further than facts will warrant.

TIME OF ITS APPEARANCE.

Though the first case I saw of the complaint was about the 12th of October, I was informed that several had occurred as early as September, in the camp at Green Bush, where my patient then was; yet not in such numbers as to excite any alarm, or raise a suspicion that the disease was either epidemic or malignant. The number of cases gradually increased, in the camp and in its neighbourhood, during the latter part of October and beginning of November, about the middle of which the disease appeared in this city; first among some labouring persons who had been employed at the camp, and where some of them were taken ill, and then among the ferrymen plying between the two places. From this time it appeared indiscriminately among all ranks of people, and in every part of the city.

NOSOLOGICAL ARRANGEMENT.

Of *names* I am not particularly tenacious, but choose to rank it with Cullen, under the genus "Pneumonia," species second, "Peripnumoniæ Idiopathicæ complicatæ febre," where we have the varieties,

Peripneumonia Putrida, S.
Peripneumonia Ardens, S.
Peripneumonia Maligna, S.
Peripneumonia Typhodes, S.

Of these Cullen observes in a note, "Sauvagesum, ut soleo, secutus, hanc et tres sequentes species quasi diversas recensui, *cum tamen pro una eademque habere vellem.*" His objection to Sauvages appears just, as there can be no question, that the term Peripnumoniæ Typhodes, will include the

other three; I therefore prefer it. I adopt this arrangement with the more satisfaction, as under the one or the other of the above names, I find the disease accurately described by a variety of authors. In adopting a name, I do not adopt a theory; and as names are intended merely to distinguish one thing from another, they ought not to be needlessly multiplied.

HISTORY OF THE DISEASE.

In giving the history of any disease, it is not to be presumed that the symptoms all occur in any individual case, and much less so, in one so multiform in this respect as the present.

The complaint always begins, as in other peripneumonies, with a chill, but infinitely more severe and distressing, and of much longer continuance; very great prostration of strength, countenance generally sunk, though sometimes a little flushed; the pulse feeble, in frequency sometimes natural, at other times slower, but generally otherwise. As the chill and horror go off, the patient generally complains of universal distress, pain in the head, back, and extremities, but particularly in one or the other side, shooting up to the clavicle or across the chest, often to different parts, as the neck and opposite scapula: the pulse is now generally, though not always, increased in frequency, apparently full and strong, but annihilated by the slightest pressure; indeed, it has the "semblance of strength without its reality." This peculiarity of the pulse may almost be considered as the diagnostic in the complaint.

The tongue is, in almost every case, covered with a *white velvet like* thick fur, which soon becomes brown or black; sometimes, however, it is pale and *moist*, often *dry* and harsh; the breathing insupportably laborious, even when the pain is not severe, and every muscle concerned in this function

ceases to act, until goaded on by volition; but when the pain is acute, the anguish is inexpressible; every cell in the lungs seems infarcted, and themselves weighed down by the load.

The bowels are generally costive, and the stomach oppressed with a thick, glairy, tenacious matter, resembling the albumen ovi; the urine high coloured, and in small quantity; the stools vary in appearance, according to the cathartic administered, being always of a lighter colour, when procured by the alkaline salts, than when metallic one shave been used. The skin is, for the most part, dry and hot, often nearly natural, but in all cases perspiration is easily excited. The cough is extremely urgent, the expectoration generally free, but in some cases difficult; the expectorated matter has a glairy, ichorous appearance, somewhat resembling thin soft soap, and is often streaked with blood. Nausea and a portion of bile sometimes attend the attack, though I have not found it a common symptom: it is worthy o fnotice that the glairy fluid discharged from the stomach, is often extremely nauseous and fetid, and highly disgusting to the patient himself, as well as to the by-standers. This was, also, the case with the expectorated matter in many instances.

Great restlessness, distressing dreams, sudden frights, and starting from sleep, attend most cases, and many are unable to endure the horizontal posture, from a sense of suffocation, which constantly attends that position. Coma, and sometimes delirium ferox, are frequent symptoms. Petechiæ, though not common, occur in some of the more malignant cases. In many instances a numbness in the left arm, (for I have not observed it in the right) approaching paralysis, occurs, which frequently continues for weeks after the patient is convalescent. Apthæ and ulcers in the throat occur in a number of cases. The disease, though generally under the controul of medicine, is in some instance highly malignant, and proves

fatal before the operation of any medicine can be produced. Indeed, I have known one instance in which the patient died during the rigor with which she was attacked; she was, however, upwards of eighty years of age: I am not acquainted with an instance of a person over seventy years of age recovering from an attack. Instances of children and infants being subjects of it, have been mentioned to me; but I have met with none under the age of nine years; and Dr. White, of Cherry-Valley, told me in February last, that he had not seen an instance under the age of twelve years. It is, however, possible and probable: I speak of it only as I have seen it.

These are the symptoms which I have observed in the cases that have come under my observation, since the first appearance of the complaint, in October last; not that I have seen them all in any single patient, for there are unusual and doubtful symptoms in every disease; but all those symptoms which point to the *lungs* as the seat of the disease, as pain in the side, laborious breathing, urgent cough, with, or without bloody expectoration, inability to lay in a horizontal position, the infarction of the lungs, &c. and all those symptoms which obviously point out the fever which accompanies it, to be real typhus, as the pulse, the skin, the tongue, coma, delirium, sudden prostration of strength, and petechiæ, the latter excepted, I have seldom found absent in any case, which I have considered as belonging to the epidemic. It must, however, be observed, that many cases of typhus have occurred during the prevalence of the epidemic, unattended by any pneumonic symptoms, and many, I believe, have placed these also, under the wide-mouthed name of *epidemic*. I also know, that simple catarrhal fever has had the same honour. It is, therefore, no wonder that so many different accounts of this disease have appeared, when so little discrimination has been made.

Theorists may wonder, and laugh if they please, at the strange combination of *typhus* with pneumonic inflammation; but wonder, says a learned writer, is ignorance, and laughter folly; for such is the fact, supported on no less authority than that of the learned and accurate Sydenham. In his chapter on "The Epidemic Cough, Pleurisy, and Peripneumony, of 1675," he observes, "And though the pungent pain in the side, the difficulty of breathing, the colour of the blood that was taken away, and the rest of the symptoms that are usual in a pleurisy, seemed to intimate that it was an essential pleurisy; yet this disease required no other method of cure than that which agreed with the fever of this constitution, (continued fever, with dysentery) and did no ways admit of that which was proper in the *true pleurisy*, as will hereafter appear. *Add to this*, that when a true pleurisy is the original disease, it usually arises betwixt spring and summer; whereas the distemper we now treat of, begun at a very different time, and is only to be reckoned a symptom of the fever which was peculiar to the current year, and the effect of the accidental cough."

On the authority of Dr. Parr, also high authority, we assert the same fact; he observes, Art. Pneumonia, "the putrid peripneumony proves often a very formidable epidemic, *and its nature is that of typhus*, with which the peripneumony is accidentally combined;" but we assert it, moveover, on the authority of our own observation of the fever, and the numerous dissections which have been made in different places by accomplished surgeons showing the lungs or pleura, or both, to have been highly inflamed.

Perhaps it would be more scientific, agreeably to the two authorities above cited, to name the disease, the Typhus Pneumonodes, as they both conceive the pneumonic affection as accidental; yet Parr has preserved the old name. In practice I conceive it immaterial.

There is, in the combination of the more important symptoms attending this disease, great differences, not only in the manner of their appearance, but in their degree of violence and malignity; hence, in some, the pyrexial symptoms require all our attention, in others the pneumonic; though ordinarily they both equally demand it.

The disease has, in some instances, terminated by metastasis; in others by the supervention of another complaint, as scarlatina, measles, and an anomalous rash, all of which prevailed to a certain degree at the same time, and this I find to have been the case in other countries where the same epidemic has raged.

In fine, there has been as great a variety in the symptoms of the cases I have seen in this place during the winter, as there are discordancies in the different authors who have described it as prevailing in the various parts of the globe.

Thus the disease is described, by various authors in nearly the same language, differing only in the predominance of a particular symptom, which often depends on the peculiar constitution of the patient, his age, mode of life, and the constitution of the atmosphere as well as nature of the climate where the epidemic has raged.

Sydenham, in the chapter formerly cited, notices a malignant pleurisy, and a symptomatic one, that accompanied the fever which prevailed in the winter of 1675, when he observes, that the pleurisy was combined with a continued fever, which would not bear bleeding; and though he does not enumerate in order all the symptoms of the complaint, yet from the scope of the whole chapter, it is easy to perceive that he has described essentially the epidemic which has prevailed in this place. I cannot help observing that the epidemic constitution of the year bears a close analogy to that which I have observed here, and in the neighbourhood,

during the last summer and fall; as dysenteries were more prevalent than they had been for many years.

Cleghorn, in his Diseases of Minorca, chap. pleurisy, has described the disease under a different epidemic constitution, and different climate, and yet exactly as it has appeared in some parts of this country. I believe every one will recognize the complaint from the following history of it, in his own words. "Those pleurisies began commonly like an ague fit, with shivering and shaking, flying pains all over the body, bilious vomitings and purgings, which were soon succeeded by quick breathing, immoderate thirst, inward heat, headach, and other feverish symptoms. In a few hours the respiration became more difficult and laborious; the most part of the sick being seized with stitches in their sides, striking upwards to the clavicle and shoulder blade; obliquely downwards along the cartilages of the bastard ribs; or else darting across from the breast bone to the vertebræ of the back; so that they could neither cough nor make a full inspiration without great pain. Many complained chiefly of a load and oppression in their breast, as if a millstone had been laid upon it; some of a heaviness and fluttering about the heart, which at one time seemed to glow with extraordinary heat, at another to be chilled with cold, as if it had been dipt in ice-water. In a few of the sick those complaints preceded the fever, in others they did not come on till the day after.

"In the progress of the disease, it was not uncommon for the pains to move about in the thorax from one place to another. Sometimes they would shift from the breast to the limbs, and of a sudden return to the bowels; and I have seen cases wherein, after leaving one side, they have attacked the other unexpectedly, and proved fatal in a very short time. The left side of the thorax was not near so liable to be affected as the other; forty-two out of sixty patients

who were seized about the same time, having had the disease in the right.

"But whichsoever side was affected, the sick lay easiest on the opposite, though the generality were obliged to lie upon their backs, or to sit up in bed with their heads erect. Many were drowsy and inclinable to sleep; but they raved at intervals, or were much disturbed with extravagant dreams." &c. &c. He goes on: "In the mean time the external heat of the body was in several very moderate; in some, less than natural; but for the most part it was so intense as to raise the mercury in Fahrenheit's thermometer, to the 102d degree; and often in the afternoon to the 104th. The pulse was likewise very variable, not only in different persons, but in the same person at different times; and in respect to its strength in different arms, that of the pained side being most obscure; and I have frequently found it like that of a man in health, or even slower than natural, while the patient was in the greatest danger, so that it could neither be depended upon as a prognostic sign, nor as an indication of cure." He states the fallacy of the appearances of the blood, and his inability to say what appearance of it afforded the best or worst prognostic. He continues:

"Beside some abatement of the fever, which commonly happened every morning, it was remarkable that upon the third day, or beginning of the fourth, there was frequently a great remission, sometimes a total cessation of every violent symptom; so that the sick were thought to be out of danger: but on the fourth or fifth a dilirium suddenly came on, or the breathing became more difficult than ever, and one or both of those symptoms increasing hourly, the patient expired in a day or two, either suffocated or raving mad." I have made this long extract in order to show how very nearly the epidemic here and that in Minorca quadrate; excepting the latter being attended with greater bilious symp-

toms, and its bearing the loss of blood to a greater extent, it would serve as an accurate history of the former. And unless we are to doubt the most respectable authority, it has completely resembled it on our frontiers, where the lancet has been used freely. Dr. Rush remarks in a note on the above cited history, "It is evident from the state of the skin, the pulse, and the blood, that this pleurisy partook a good deal of a malignant nature."

Morgagni, in his twenty-first letter, describes two epidemics, the one at Bologna, the other at Padua, which from the short and desultory histories he has given of them, in his dissections, appear to be of the same nature with our own; and Coiterus, in his anatomical observations, says, "that in the year 1563 peripneumonies and *malignant* pleurisies spread all over Italy, like epidemical diseases, and destroyed great numbers; and in the bodies that I dissected, (says he) I found the lungs, as it were, universally turgid, with blood half putrified, and indurated to a surprising degree." Wierus, in lib. rarar. observat. describes a disease which he terms a malignant or pestilential peripneumony, "quæ per totam inferiorem Germaniam gravissime dominabatur, nec venæsectione aliisque remediis cedens, maximam hominum stragem ediderit," and in all its important characters resembling our own epidemic.

Huxham no doubt refers to the same complaint, when in his chapter on pluerisies, he speaks of those which do not bear the loss of much blood, and concludes by advising us in practice, to consider not only the peculiar nature of the epidemic, but also the season, and constitution of the patients. Home, in his Principia, briefly characterizes it, "Adest difficilis respiratio; inquietudo; summa debilitas; animi ad minimum motum deliquium; dolores per totum corpus; pulsus mollis et depressus; profusi sudores; rejectio materiæ tenuis, saniosæ, sanguiniæ, male olentis per sputum;

urina ruberrima; sanguis dissolutus, lividus, sine crusta alba: Eruptiones rubræ vel lividæ petechiæ.

It is probable that the disease described by Dr. Williamson in the second volume of the Medical Repository is the same; but his account is so short and imperfect that it is difficult to decide with certainty as to its real character; there is however a great similarity in the mode of treatment. Dr. Powell, of Burlington, Ver. in a letter to Dr. North, unquestionably describes the disease, and under that form it has appeared in the western part of this county, and in the countries adjoining it to the west, and where it has doubtless been more malignant than in the city. See North on Spotted Fever, page 38.

McBride also takes notice of this disease: speaking of peripneumony, he observes "but when these inflammations take place in constitutions where the crassis of the blood has been previously injured by a putrefactive acrimony; or when they are complicated with fevers, occasioned by infectious miasmata, such as have been formerly described, then the symptoms of extreme weakness and dejection, sickness, vomiting, petechiæ and delirium, will be found superadded to the pain in the chest, cough, oppression, and difficulty of breathing."

In prisons, hospitals, or transport ships, where infectious putrid fevers prevail, it is not uncommon to meet with these malignant peripneumonies, as the reader will see in Huxham's Essay on Fevers. They have also been found to rage epidemically in certain seasons in different countries of Europe; and appear to be occasioned by a most corrosive species of acrimony settling on the lungs, which in a short time produces a gangrene, not conquerable either by nature or art.

From what has been said above of this epidemic, it will be seen that Dr. Hosack, in his letter to Dr. Beck, which is

already before the public,* has briefly, but accurately, described it, as it then appeared in Albany, and as it has since manifested itself in various other places; and the mode of treatment then recommended by him is that which, with little variation, we have pursued, from its first appearance, most successfully.

For further particulars as to the existence and similarity of the diseases above mentioned, to the epidemic which has prevailed in this place, Tissot, Cappel, and Sauvages, who have brought together most of the information at that time existing on the subject, may be consulted.

CAUSE.

The causes of this disease are probably the same as those of typhus gravior and pneumonia, along with a peculiar constitution of the atmosphere, apparently beyond the reach of our investigation. The exciting causes appear to be fatigue, exposure to cold and damp air, and excess of every kind.

As far as I have observed, no class of persons are exempt from it; it attacks equally the opulent and the indigent, the temperate and the intemperate; but proves much more fatal to the poor and intemperate, frequently from the want of necessaries to the one, and the exhausted constitution of the other.

PROGNOSIS.

This is often extremely difficult; for frequently when the pain in the side has subsided, the cough and expectoration abated, and the febrile symptoms nearly disappeared, and we are ready to pronounce the patient convalescent, the pain suddenly attacks the opposite side, with more aggravated cough and copious expectoration, and a recurrence of all

* See the Register, vol. iii. p. 448.

the dreadful symptoms of typhus, which generally soon terminate in death. In general, however, a gradual subsidence of the pain and cough, with a free expectoration, and increasing freedom in breathing, regular state of the bowels, moist skin, and clean tongue, indicate a favourable termination of the complaint. On the other hand, when the pain does not abate, or increases, and the cough continues urgent, and the expectoration difficult, the breathing laborious and painful, the oppression increased when the bowels are swelled and torpid, great restlessness, delirium, aphthæ, or petechiæ appear, little hopes can be entertained of a fortunate issue of the disease.

I have said nothing of the diagnostics of this complaint; they are readily derived from the history of the disease, and will in almost every instance be found the same as in typhus gravior or pneumonia, of which two diseases this is a compound.

METHOD OF TREATMENT.

Aware of the nature of this disorder, I have from the very commencement treated it on a uniform principle, but have been in several instances obliged to vary the means. The first case I saw, was J. R. aged about forty-three. He informed me that the day previous to the attack he had been intoxicated; after which he was seized with a severe chill which lasted for at least twelve hours, during which time the pain in the left side, and a most distressing cough, with very laborious breathing, came on; great nausea and constipation of the bowels, the tongue covered with a dark brown fur, the skin dry and hot, the pulse about seventy-five, full, but easily compressed; the urine in small quantity, fœtid, and high coloured, and great prostration of strength. I ordered him a cathartic composed of the super-tartrite of potash and jalap, which operated freely, and left him much exhausted.

I then ordered him diaphoretic powders, composed of nitrate of potash, calomel, and tartrite of antimony, with balm tea, which, in the course of three or four days, completely relieved the febrile symptoms; for the cough he took the common pectoral mixture, composed of mucilage and a solution of tartrite of antimony, without any opium. On the morning of the fifth day he was completely convalescent, and, contrary to the most serious injunctions, sat up the whole day. About 7 o'clock, P. M. he was again seized with all the above-mentioned symptoms, in a much greater degree than before, together with the most outrageous delirium. One of the young men attending at the hospital in the camp bled him in my absence, and he died raving mad in the morning. Dr. Beck and my brother attended the *dissection*, as I was prevented by indisposition: the lungs were in a high state of inflammation, adhesions in different places between the lungs and pleura; a very considerable effusion, both in the cavity of the thorax and pericardium.—The diaphragm was somewhat inflamed, the liver natural, the spleen turgid, and the intestines surcharged with fœtid, dark coloured fœces.

From the effect of bleeding, in this case, as well as from my previous opinion of the nature of the complaint, I was satisfied that it would not bear depletion. This I mentioned to my friends, Doctors Eights, Wendell and Beck, three physicians with whom I have conferred weekly, during the whole period of the epidemic.

The indications of cure are, obviously,

1st. To remove the fever, and

2d. To palliate and counteract pneumonic inflammation.

The first of these indications I have accomplished by clearing the primæ viæ, by cathartics and emetics, and by diaphoretics. On the first appearance of the complaint, I administered cathartics of calomel and jalap, and super-tartrite of

potash and jalap; but from the severity of their operation, and the extreme debility which they induced, I was led to substitute the sulphate of magnesia, which operates with equal certainty and efficacy, without the exhaustion of strength which invariably followed the use of the former medicines. The cathartic I have repeated, till the bowels were soft, and the discharges natural, which generally happens from the second or third dose; though in some cases it is necessary to repeat them oftener. In some cases there is a very considerable degree of torpor of the bowels, but for the most part I have found them easily moved. When the stomach is deranged, and great nausea exists, it frequently happens that the cathartic operates freely as an emetic; when this is not the case, I have given a scruple of ipecacuanha, and one or two grains of the tartrite of antimony, which effectually discharges the contents of the stomach, and which, in eight cases out of ten that I have seen, was of that glairy ichorous, fœtid mucus, as described in the history of this disease. Occasionally, bile was evacuated, but in so small a proportion of cases, as to put the bilious nature of the complaint at rest: indeed, in some cases, all the bile discharged appeared to be the effect of the violent efforts in vomiting, having no connection with, or influence on the disorder. Dr. Watts informs me, however, that bilious discharges were common among the sick at Sacket's Harbour, and along the northern frontier of the state, and his description of the complaint is precisely that given by Cleghorn in the history above cited.

Having cleared the stomach and bowels, diaphoresis is generally excited with facility; in many cases common herb teas, as catnip, balm, pennyroyal, hemlock, are amply sufficient; when they are not, I have never been disappointed in the use of nitrate of potash, calomel and tartrite of antimony. The effects of diaphoresis are almost immediately

perceived in a subsidence of the febrile symptoms, the pain in the extremities, the head-ach, the improved condition of the tongue, and the appearance of the countenance. Care, however, must be taken not to carry the sweating process too far, for profuse sweating frequently debilitates the patient to a degree that baffles every effort for recovery.

The second indication, is to counteract pneumonic inflammation and its attendants. To accomplish this, I had recourse, in the first three cases that I attended, to blisters, but to my astonishment, found the pain in the side, in every instance, aggravated instead of being relieved. I have since entirely dispensed with them, and have made use of warm fomentations to the part, flannels rung out of hot brandy or vinegar, volatile liniment, bags of hot salt or bran, which seldom fail to mitigate the pain, if not to relieve it entirely. The cough is often very distressing, and the expectoration difficult; I have in these cases made use of the common pectoral mixture without the addition of any opiate, and demulcents, as barley-water, flax-seed tea, &c. with the best effects. In those cases which were attended with a numbness of the arm, I made use of camphorated spirits and friction.

Under this treatment, the pneumonic symptoms, pain, cough, and laborious breathing disappeared gradually, with the febrile ones, leaving the patient, however, greatly debilitated. In such cases, I have allowed them wine, or spiced wine, to the amount of four or five glasses in the day, along with beef tea and thin soup, till the appetite and strength increasing, they feel an inclination for solid food. I should observe that I tried the cinchona as a tonic in several cases, but without any good effect, and I think to the prejudice of my patients; I have invariably found the wine a safe and useful substitute. In one case that I attended, the complaint terminated in purulent expectoration, with occasional hæmoptysis, showing clearly the nature and seat of the complaint; and Dr.

Eights informed me that he had observed the same thing in one or two cases under his care.

In several instances, the disease terminated by the supervention of an anomalous rash, which was very prevalent in the city during the whole winter; in two cases, both very malignant, it terminated in scarlatina, which also prevailed at the same time; in the one it proved formidable, and my patient, contrary to every expectation, recovered; in the other, it appeared to hasten the fatal termination.

In two cases it has ended in metastasis, the pain suddenly leaving the side and seizing one or the other of the lower extremities, with great pain and swelling; this in one instance under the care of Dr. Eights, at first resembled the puerperal swelled leg; but gradually assumed the œdematous character, and in spite of every exertion, terminated in a sphacelation of the whole calf of the leg and more than half of the foot; in the other, it was œdematous from the beginning.

In cases of delirium ferox, I have made use of camphorated powders with advantage; but have in no instance administered stimulants, until the patient was convalescent, and then nothing more than wine, as formerly stated.

The epidemic has not only prevailed less extensively in this city since the first of March, but has been much less malignant, and seems to be considerably influenced by the approach of warm weather; though in places where it did not appear during the winter, it has raged with considerable mortality during the months of March, April, and May.

I may state, as a singular fact, that in two cases that I attended, the fever observed accurately the tertian period; both my patients had resided in Carolina, and had laboured under tertian intermittents, for several months annually, for five or six years.

IV.

OBSERVATIONS *on the* EPIDEMIC FEVER *which lately prevailed in the City of Albany, in a Letter to* JAMES LOW, M. D. &c. &c. *from* Dr. J. EIGHTS, *Physician, Albany. Communicated by* J. W. FRANCIS, M. D.

Albany, 10th May, 1813.

Dear Sir,

I am sorry it has not been in my power to comply with your request of April 19th until now, domestic and professional affairs having prevented me.

I feel happy to hear that you are about publishing an account of the epidemic which has prevailed so extensively in this city and throughout the state during the last fall and winter; as I am sensible no person is more capable of doing justice to the subject; and as the accounts heretofore given to the public by some practitioners are, in my opinion, very deficient.

I shall endeavour to answer your several queries in the order in which they occur.

1. The first appearance of the epidemic in the course of my practice was on 25th October, 1812, in the case of John Gillan, near Plain-street: he had been labouring in the camp at Greenbush, where it was supposed he had contracted the complaint. I was not called in until the latter stage of his disease, he being attended by Van Deusen, who bled him freely for a violent pain in the left side: this man died.

The second case was that of Van Molson, in Church-street: I saw him on the 28th of the same month. He was a ferryman between this city and Greenbush. Owing to the violence of the pain in the side, a scanty expectoration of bloody mucus, and the severity of the cough, I was induced

to bleed him; his pulse, which was apparently full and hard, now sunk rapidly, and he died shortly after; a few petechial spots were discovered before death. From this time the epidemic began to spread, but principally among the poorer class of citizens, until about the middle of December, when it commenced in different parts of the city and Colonie.

2. Those physicians who have published their observations on the epidemic, appear much at a loss concerning a name or character for the complaint. I think its nosological character and distinction is clearly defined by Cullen—Class Pyrexiæ—Order Phlegmasiæ—Genus Pneumoniæ—Species 2d. Idiopathic Peripneumonia, complicated with fever.

3. This complaint appears to have prevailed at the camp at Greenbush, and in various cantonments of the army, during the last summer; and the first patients that we had of it in this city were of those who had laboured, or had visited at the camp. A complaint very similar to the one now under consideration I find prevailed in the state of Vermont in 1810, which proved extremely mortal, and was then called the malignant pleurisy.

The following are the symptoms which usually appear in the complaint. The patient is sometimes seized suddenly, at other times he complains for a few hours of listlessness, weakness, pain in the head, back, and extremities; with chills following the course of the spine, at first slight, but afterwards increasing to a violent degree; those chills are peculiarly distressing to the patient, and in many cases continue for several hours: a distressing pain is now felt in one or other of the sides, which is much increased by breathing, and extending to the shoulder; to this succeeds a warm stage; the pulse during the cold stage appears small and weak; during the warm stage, full, but easily compressed or obliterated by the pressure of the finger; great difficulty and

distress in breathing, with a peculiar guzzling or rattling, as if the trachea was filled with a fluid. In most cases there was a violent cough, with an expectoration of a glairy mucus, often mixed with blood; delirium, or stupor, in many, with costiveness, or a torpor of the bowels; sometimes nausea attends, and often a distress, or load in the stomach. The tongue has a white velvet-like appearance; at times, though rarely, clean and moist; it soon, however, becomes yellow or brown: in several cases I have seen the tongue acquire a bluish appearance, as if deprived of blood. A great prostration in general attends from the commencement—In four cases I have discovered petechiæ, and in one vibices. There in general appeared to be an exacerbation of the fever in the morning, and a paroxysm in the afternoon or evening, and this continued when the patients were in a state of convalescence. I believe that the principal number of my patients were seized during the night, and many were of the number of those who retired to bed apparently in a state of health.

4. In a few of the cases which came under my observation, no great degree of pain was complained of by the patient; but those in general were apparently in a comatose state, or in a state of delirium: that there must have been some pain or distress in the side or breast, is evident, from the suffering of the patient, the short and distressed breathing, and from the cough and expectoration. That the lungs or pleura were affected in those cases, I have no doubt. That the thoracic viscera may be affected with inflammation, and that to such a degree as to destroy life, every person acquainted with the appearances of morbid bodies, and the extensive adhesions that take place in the chest, must admit. Morgagni relates the dissection of several persons who died of inflammation in the lungs, and where even a change had not taken place in their substance;

and yet the persons who were subject to the complaint never experienced any pain in the side or breast.

A peculiarity attending this complaint, which I have often discovered, is an interrupted or unequal pulse, which usually makes its appearance in the latter stages of the complaint, characteristic, I think, of an effusion in the cavity of the thorax.

Some few cases occurred in my practice where there was a violent pain in the head, principally over one eye; which was very distressing, and often in the back of the head.

5. No class of citizens were entirely exempt from the epidemic: but those most subject to it were the intemperate, the aged, and those who had been debilitated by former diseases, or by severe labour or fatigue, and those also who were labouring under the least pulmonary affection.

The remote cause of this disorder, I conceive to be a peculiar state of the atmosphere, favorable to its commencement and progress. In looking over my meteorological entries for the months in which this complaint mostly prevailed, the barometer ranged from 29 to 29.40, seldom at 30.

6. Except in very aged persons, the intemperate, or in debilitated habits, my prognosis has generally been favourable to the recovery of the patient.

7. Persons of all ages have been the subjects of this epidemic; infants under the age of two years are, I think, the only exceptions; but those most liable have been from the age of forty and upwards.

8. I must confess I have not discovered those strong bilious symptoms as described by some physicians. Many of my patients to whom emetics have been administered, evacuated little or no bile; but, on the contrary, a tough glairy matter, in some respects resembling the albuminous part of the egg. I believe, in every fever or affection at-

tended with typhoid symptoms, more or less of bilious matter may be evacuated; for even in a state of health, an emetic will often evacuate large quantities of bilious matter: and even the common purgative of calomel and jalap, given for far different affections, will produce stools highly bilious.

With respect to the colour of the evacuations, considered by some as vitiated bile, I believe it may often be nothing more than the contents of the stomach tinged of a cerulean blackish colour by the medicine taken; being informed that the sulphate of copper is a common medicine with some physicians to excite vomiting.

That there is in this complaint a local affection, and that of the lungs, I have no hesitation in saying, the symptoms attending the affection are sufficient to convince every person open to conviction: was it in the liver, as some would have us believe, from whence would arise the pain in the left side and shoulder, the cough and expectoration of bloody mucus; and why, when the pain is very acute in the left side, by applying an epispastic to the part, does the pain cease; and are there not several, who, having suffered from the disease, have afterwards had all the symptoms of confirmed phthisis?

That the liver may in some measure be affected, I do not doubt, but I consider it as a secondary effect, by the inflammation spreading along the diaphragm; and in this way occasioning a change in the secreted fluids.

Perhaps the following case may throw some light on the subject.

George Brown, aged forty-five years, on the 7th February, fractured his thigh; ten days after the accident his house caught fire and was consumed to the ground. He was removed into the open air, where he remained two hours, and was then conveyed to the house of his father, at the dis-

tance of a mile: while still confined, he was seized with the prevailing epidemic, with all the symptoms above noticed to an alarming degree; the pain was in the left side, extending to the shoulder, and much increased upon breathing; respiration very laborious, with cough, and an expectoration of much bloody mucus; pulse, the semblance of strength, but easily compressed. About the ninth day of the complaint, and when apparently on the recovery, he was suddenly seized with a violent pain on the inside of the thigh of the affected side, about three inches above the articulation of the knee joint. The whole leg and foot in a few minutes became much discoloured, with many vesicles, containing a yellow pellucid fluid: notwithstanding every exertion, a sphacelation ensued, and destroyed a large portion of the muscles of the leg, foot, &c. From the moment that the leg became affected, the side and breast were completely relieved, the expectoration, difficulty of breathing, and pain vanished. I forbear to give you a more detailed history of this case, my only object is to show that the lungs were affected, and not the liver.

9. From the many communications we have had on the nature of this complaint and the mode of treatment, it will be needless for me to enlarge, as you are already acquainted with my sentiments on the subject: suffice it to say, that in the commencement I generally evacuate the contents of the stomach and bowels with calomel and jalap, in which two, three, or four grains of the grey antimonial powder is mixed; this powder I repeat every three hours, until a free evacuation is effected. Usually upon a free evacuation a remission of the violence of the symptoms takes place with a moisture on the surface, which is promoted by gentle diaphoresis; when the pulmonic symptoms are severe, a grain or two of calomel is added to the diaphoretic. I usually repeat the cathartic every second day, should there not be

two or three free evacuations daily. The pectoral mixture I have found an excellent medicine to promote expectoration and to keep up a moisture on the surface. The external remedies, I have used to the affected side were linim. vol. hot spirits or vinegar, toasted oats or bran, hot embers and salt, and when the pain has been very acute, an epispastic.

It will be necessary to observe, that during the prevalence of this epidemic, the remittent fever has been commonly attended with typhoid symptoms, and in some measure assimilating to the epidemic, and which I have found required repeated evacuations; this I believe has been the cause of some of our physicians naming the epidemic the bilious epidemic fever; but in it the pain in the side has been wanting, likewise the expectoration of glairy and bloody mucus; and I believe it is in those cases where those violent emetics and purgatives, given and recommended by some physicians, have had any effect. Several cases of the true epidemic came under my observation, which were treated by the attending physician with violent cathartics and emetics: they almost universally terminated fatally.

That in the epidemic, repeated evacuations are necessary, every person conversant in the complaint must acknowledge, but I think they act in a far different manner than to purge off bilious matter. This matter I consider as the effect, rather than the cause of the complaint, and it being removed by the cathartics and emetics, prevents and removes the irritation that it must necessarily occasion.

Cathartics also answer another purpose; they reduce the inflammation, which I consider as the primary and most dangerous affection.

I shall only observe, further, that in the first three cases I was induced to bleed from the violence of the pain in the side, and the strong resemblance of the complaint to the pleurisy: the patients all died shortly after the evacuation.

From that time I have never bled a single patient. From the result, I think at least the inflammation not to be of the active kind.

Thus, sir, I have endeavoured to give you a few of my observations on the complaint which has prevailed so extensively. I believe they do not differ from those you have already made, and which have frequently been the subjects of our conversation; that they may, in the least degree, be of service to you, is my sincere wish.

I am, Sir, your friend,

J. EIGHTS.

DR. LOW.

V.

CASE *of* POPLITEAL ANEURISM, *successfully treated, by* HENRY U. ONDERDONK, M. D. *Secretary of the Medical Society of the County of New-York, and Member of the Royal College of Surgeons, London. Communicated in a letter to* DAVID HOSACK, M. D. *&c.*

New-York, June 7, 1813.

DEAR SIR,

IT is the opinion of several of my surgical friends, that all cases of aneurism occurring here should be published, as the disease is not frequently met with in this country, and the records of foreign cases are not widely enough circulated to make our profession familiar with them. Influenced by this advice, I take the liberty of requesting you to favour the following account with a place in the Register.

In the beginning of last month, Asa Utter, aged forty, and of a robust habit of body, consulted me on account of a swelling about the knee, attended with occasional shooting pains, and a contracted state of the limb. On examination there was found a tumour in the ham, nearly as large as the

fist, and attended with remarkably strong pulsations. This was evidently an aneurism of the popliteal artery.

Of the commencement of the disease, the account given by my patient was not very precise. He stated that for nearly a month he had noticed a pricking sensation in the ham; that about a week ago his heel slipping on a curb-stone, he "felt something give way" in the same part; and that the pulsation has been observed only four or five days. It ought also to be mentioned, that about five months before, I had prescribed for a cutaneous disease, a hardening, chopping, and scaling of the skin, affecting principally the extremities, which was cured by the use of ung. pic. occasional doses of sulph. sodæ and a free use of decoct. guaiac. offic.

As there was no doubt of the nature of the disease, so there was none as to the proper method of cure; and my patient consented to the operation with as little hesitation as I proposed it. As he was of a full habit, he was bled to ten ounces, and the next day took a full dose of sulph. sodæ. These reduced the strength of the pulsation very greatly.

On May 15th, with the assistance of Dr. Post, and in the presence of Dr. Kissam, Dr. S. W. Moore, and my father, I performed the operation in the following manner: An incision nearly five inches long was made through the skin, the center being over the point where the superficial femoral artery passes under the sartorius muscle. With a little dissection this muscle was laid bare, and turned aside. This brought into view the sheath* of the superficial femoral vessels. An incision was made through this, and the handle of the scalpel was insinuated under the artery, separating nearly an inch of its surrounding cellular substance. A double ligature was next passed under the vessel; one portion was tied as high upon the artery as it could be drawn; the other

* Stabat nominis umbra.

portion was tied an inch below; the upper portion was then secured by being passed through the vessel, and tied; and lastly, the artery was divided between the ligatures, nearest the lower one. A muscular branch was divided in the course of the operation, both ends of which were immediately secured. The edges of the wound were brought together, and retained by strips of adhesive plaster, the limb well wrapped in a stocking and flannels, and an anodyne administered.

The pulsation of the tumour ceased on tying the artery, and a slight degree of numbness and coldness was felt. This latter symptom vanished in a few hours; and the limb, except the toes, became as warm, or warmer than the other. The wound was dressed on the fourth day, and found to have united by the first intention, excepting in the track of the ligatures; the tumour was also evidently diminished, and the general swelling about the knee entirely removed. The only untoward symptoms in the progress of the cure were, first, inflamed streaks on the inside of the leg, along the course of the vena saphena, which were attended with some pain, but readily yielded to the use of a cooling anodyne lotion; and secondly, an oozing of blood on the eleventh day, (noticed coagulated on the dressings,) which at first gave some alarm, but did not exceed a table spoonful in quantity, and which did not again occur: this bleeding was probably from the new granulations.

The ligatures from the muscular branch came away on the sixteenth day, at which time the limb could be straightened, and the tumour was rapidly decreasing. The upper ligature, and the piece of artery through which it was passed, came away on the twenty-second day; and the lower ligature on the twenty-third, (yesterday.) At present the aneurism is diminished to less than half its size at the time of operating.

It is very uncommon for an aneurism to increase as rapidly as this did. In Scarpa's work (p. 426—429,) are two such cases, but in those the disease was the consequence of a wound in the artery. I do not know of any case of aneurism, coming on without great violence, which has made as rapid progress as did that of my patient.

The passing of the upper ligature through the vessel, with a view of preventing its being forced off by the impetus of the blood, may not perhaps be deemed necessary, since the elucidation of the *modus operandi* of ligatures afforded by Dr. Jones in his treatise on hemorrhage. The internal coats of an artery being divided by a ligature, the little cylinder of them left within the cellular coat (which is not divided except by too great force,) will ordinarily afford sufficient resistence to the pushing off the ligature. It must be evident, however, that the precaution in question will greatly add to the security from hemorrhage, by retaining within the cellular coat this little cylinder of the internal coats.

It would be difficult to say, whether the former cutaneous disease had any effect in predisposing the arteries to become aneurismal. Scarpa has several cases of aneurism produced in patients who had been syphilitic, and were cured by mercury. My patient took no mercury. There appears to be some resemblance between this cutaneous affection, and that "steatomatous, ulcerated, squamous" state of the inner coat of the arteries, to which Scarpa attributes all aneurisms not produced by violence.

With sentiments of respect and consideration,

I am, dear sir, yours, &c.

HENRY U. ONDERDONK.

Dr. Hosack.

VI.

Sketch of the Medical Topography of the MILITARY TRACT *of the State of New-York. In a letter from Dr.* JOHN H. FRISBRE, *of Camillus, to* DAVID HOSACK, M. D. *of New-York.**

SIR,

YOUR letter of the 10th of September was received on the 4th of October. Professional and other business, of the first necessity, prevented me from answering it until now. I shall comply with your request with the utmost cheerfulness.

Query 1st. "How long have you practised physic in the country where you now reside?"

Query 2d. "What are the general features of the country in which you practice?"

Answer. I became a resident of this place in May, 1797. For the first two years, my practice was pretty much confined to the limits of this town. Since that period, my business, particularly in surgery, has been extending into the

* Those who are acquainted with the controversy relative to the character and origin of the yellow fever, know full well how repeatedly and confidently it has been asserted, that this disease is the production of marsh effluvia, and other domestic causes; and consequently, that it may be generated in all inland situations. The bilious remitting and typhus fevers, which some time ago prevailed in the Military Tract in the western part of this state, were, by some, said to be of the same nature as the malignant epidemic which has ravaged our seaport towns, and have actually been described as such by some of our sagacious journalists!! For the purpose of procuring the most satisfactory information concerning this disorder, and of placing this important subject in its true light, the following queries were addressed to such gentlemen as were best qualified to furnish satisfactory replies: and it is confidently believed that there cannot be found a single medical man, practically conversant with febrile diseases, who will identify the yellow fever with those which are described in this interesting communication. ED.

neighbouring towns, so that to describe the face of the country in which I practise, will be to describe the face of the whole of the Military Tract.

This country, with a few exceptions, may be called level. There are, indeed, in it some hills; but few, if any of them, exceed three hundred feet in height from the surface of our lakes and streams of water. These hills rise by an easy and almost imperceptible ascent, so that I know of none, in this tract, that will not admit of cultivation by the plough.

The country may be divided into three general sections, viz.

First, the elevated lands of Pompey, Fabius, Homer, Locke, and Dryden.

Secondly, the country south of these towns, in which the streams of water descend to the south, and fall into the Susquehanna. This part of our country may be said to be healthy: for but few cases of fever occur in it, and they are in the mildest form of intermittents.

The third general division, comprehending the lakes, their inlets and outlets, is that part of our country which is the most subject to fevers, and with which I am the most acquainted. This division, however, must be subdivided into the calcareous country and the alluvial.

The limestone extends from the eastern part of the military lands to their western boundary. It is from ten to twelve miles in width. It can be easily traced on its north line, through the towns of Manlius, Onondago, a small part of the town of Camillus, through the town of Aurelius, to the Cayuga Lake. Its southern boundaries are not so easily defined. The limestone is, in general, found covered with a bed of clay, from two to six feet in depth, which, in wet seasons, renders the roads almost impassable.

This calcareous tract of country, although not so healthy as the two first divisions, is much more so than the one to be

described presently. The water in this tract, although not good, is better, and the air is purer than in the alluvial tract. Many of the fevers of the worst type may be observed to commence in this and the neighbouring towns.

The alluvial country embraces the towns of Junius, Galen, Cato, Lysander, and Hannibal, on the north side of the Seneca and Oswego rivers; and part of the towns of Aurelius, Camillus, Onondago, Manlius, and the whole of the town of Cicero, on the south.

This tract, from the great number of ponds and marshes, and from its being intersected and watered by the outlets of the lakes, is subject to the usual fevers that are generated by animal and vegetable putrefaction. A particular description of any one of these towns will apply, generally, to all the others. I shall, therefore, describe the town in which I reside.

The town of Camillus, bounded north by the Seneca river, west by the town of Brutus, south by Marcellus, and east by Onondago, is a level, flat town. On the north-west part, for several miles (on the Seneca) it is a dead level, and this part of the town is annually inundated by the swelling of this and the Skaneattelas rivers. The west part of the town is intersected and watered by the outlet of the Skaneattelas; the east by the Ostisca; there is one pond, covering about three acres of land, situated on lot No. 84, near the old Genesee road, which at all times emits a nauseous effluvium; but, in dry summers, is very offensive to all those who live in its vicinity. From the exhalation arising out of this pond, from four streams and marshes, we cannot but have an air highly impregnated with marsh miasmata.

On the banks of these streams, around our ponds, and in our marshes, there are swarms of bats, gnats, flies, and musquitoes. The bats are so numerous, particularly in the month of August, that in crossingthe Seneca, in a still even-

ing, you may strike at random, and cannot help killing some at every stroke. They will frequently fly against you, and fall down in the boat.

It is on the banks of these streams, and near our ponds and marshes, that we find the most and the worst cases of fevers. The mud is frequently found of great depth, and our small streams, in many places, are not easily fordable on this very account. The soil, in some parts, consists of a black mould, of considerable depth, and, when trod up, has the appearance of lamp-black and hog's fat mixed together. In other parts, we have large beds of clay, which is, generally, found covering a stratum of limestone. In some parts, we have a soil of a reddish cast, which appears to be a compound of red sand and clay. This kind of earth is found in the greatest abundance in the town of Lysander, and is highly esteemed by our farmers for raising Indian corn.

There is a fourth kind of soil, consisting of sand and brown loam. This soil has once been covered by pitch-pines; for it is not uncommon for the farmers to plough up, in it, pitch-pine knots; and in some places, a cart-load of such knots may be collected, in this way, out of the earth, in a very short time. It is remarkable, that there is not a pitch-pine tree to be found within a great many miles of this place; and, in fact, I have not, to my recollection, ever seen one since living in the Military Tract. The country is, in general, heavy timbered. There are some groves of white pines, hemlock, beech, maple, button-wood, butter-nut, hickory, chesnut, oak, cherry, elm, poplar, bass-wood, white-wood, ash, and a variety of other kinds.

The water, in some places near the Seneca river, is salt; in many places, brackish, bituminous, sulphureous; and it is frequently found of a ferruginous taste. All the streams which arise in the calcareous tract of country, deposit a calcareous sediment. The water, in this division, is generally

bad and offensive, especially to strangers who are not accustomed to its use.

There are some sulphur-springs in the Military Tract. The one most deserving of notice is found about three miles north of Levana, in the county of Cayuga. On the surface of these waters a scum is frequently met with, resembling sulphur, in colour, taste, and smell. After a heavy shower of rain, all the temporary ponds and holes of stagnant water will be found covered with a scum, resembling sulphur.

Query 3. "What degree of heat do you usually experience in summer and autumn?"

Answer. As there are no meteorological observations made in this part of the country, this question cannot be answered in an accurate manner. In general, we experience considerable heat in our summers, more particularly in the alluvial tract of country.

Query 4. "Are your summers and autumns very sickly?"

Answer. They are. A great difference is, however, observable between those summers which are dry, and those which are otherwise. The former are most productive of fevers.

Queries 5 *and* 6. "What are your prevailing diseases?" "Are fevers the regular diseases of these seasons?"

Answer. Bilious fevers, of the remitting and intermitting type, tertians and quartans. Fevers of the above description may be said to be the regular diseases of our summers and autumns. Intermittents often continue through the winter.

Query 7. "At what time do they commence: during the hottest weather, or not until the season becomes cool?"

Answer. In dry summers, our fevers generally commence about the first of July, and begin to abate about the 15th or 20th of October. Intermittents frequently run into remittents, and by proper treatment, *vice versa*.

Query 8. "What are the first symptoms? and are your patients very suddenly seized and confined to bed, or are they complaining some days before?"

Answer. The symptoms, on the first attack, are not always uniform in every patient; nor are they so in several successive seasons. The fever of this year (1803) has been ushered in by cold chills, alternating with a sense of heat, lassitude, soreness of the flesh and bones, pain in the back part of the head, and, in some instances, extending down the spine. In some cases there was pain under the frontal, and in others under the temporal bones: pain in the breast, with difficult respiration; while in many there was a dry hacking cough. Some patients were affected with a pain in the lumbar region; others with a pain in the stomach, the lungs, the liver, and the spleen.

The large intestines, the diaphragm, and the mediastinum, have, in different patients, appeared to be the seat of the local congestions. The pain in the head is often periodical, and is accompanied with fever. The fever sometimes commences with vomiting of green and yellow coloured bile. In some cases, there is a constipation of the bowels; in others, dysenteric symptoms occur.

Since the first of July, I have had upwards of 200 patients under my care, with inflammations in the eyes. Some are confined suddenly; but, for the most part, the patients are complaining several days before the more violent symptoms appear. A great proportion of them attribute their disorder, at first, to a bad cold, which prevents them from sending for medical aid for some days.

Queries 9 *and* 10. "Does the fever begin with a chill?" "Is it worse every other day, or is there no observable intermission or remission of the fever in the first stage?"—"Are bilious vomitings frequently met with, and what is the effect of emetics?"

Answer. The greatest number of cases may be said to commence with a chill; and the patients are worse every other, every third, or every fourth day. The intermissions or remissions are generally obvious where depleting means have been used on the third day, sometimes on the fourth. But by far the greater number of cases are worse every other day.

Bilious vomitings are frequently met with; a nausea, always.

Emetics, when given after a copious bleeding, and in the first stage of our fevers, are generally attended with good effects. A remission of the fever almost always occurs shortly after the operation of an emetic, and the fever seldom ever rises to its first height after bleeding, and evacuating the contents of the stomach and bowels. I have heard of some instances where emetics have been said to do harm, by reason of the violence of their operation. But this happened where they had been administered previously to bleeding. I have met with few, if any, cases in my practice, in which I have not thought I perceived considerable advantage from the use of emetics.

Query 11. "What are the usual febrifuges you employ, and the effects of them?"

Answer. When I first commenced practice in this country, I used, in general, the following febrifuges: viz. James' powder and emetic tartar; with the use of these remedies, the usual diluents, such as balm-tea, sage and maiden-hair teas, rice and barley water, and a low diet, my patients generally recovered. The deaths, in cases of bilious fevers, have, at no time, exceeded one in fifty.

This season, which has been sickly, out of between four and five hundred patients, I have lost but one. This was an aged woman, of the name of Leech, a resident of Lysander. The first time I saw her, the symptoms were putrid in

a high degree. She lived five days after I saw her, and died on the eleventh day of her disorder.

I have been called, as a consulting physician, to some others, in the last stage of the disease, and when the symptoms have been nervous and putrid. These, in a few instances, have died. These cases, as occurring out of the ordinary course of my practice, and not exclusively my own patients, are to be excepted.

This season, my practice in fevers has been different; owing, however, to the symptoms being more inflammatory than in preceding years. I commence, as formerly, with bleeding, once, twice, or oftener, if necessary: then I give an emetic; after which I exhibit nitre uncombined, or order an infusion of the root of little solomon's seal, for a constant drink. If the emetic should leave the patient costive, I give, in some cases, a pill composed of socotorine aloes and tartar-emetic; in others, sulphur, which often answers better than more drastic purgatives, and will sometimes move the bowels when they fail.

When rheumatic pains occur, I give sublimed sulphur and g. guaiacum, combined.

When dysentery occurs, which I conceive to be the same disease differently modified, I bleed, use the above-mentioned infusion, and administer Dover's powder twice in twenty-four hours, in a full dose. I also make use of the starch-clyster with laudanum, the usual glutinous drinks and diet.

When the fever appears with inflammation of the eyes, another modification of the disease, I bleed, give nitre, order an infusion of the roots above mentioned, administer a cathartic (most generally Glauber's salt) epispastics, and sometimes sulphur, in lieu of salts, in some cases.

When the inflammation does not subside from the use of the above means, I introduce setons, and bore the ears.

I forgot to mention the use of the sugar of lead, dissolved

in water, and pledgets of fine cloth wetted with it, and applied cold to the eyes, as one of my first applications. After the inflammation has abated, I generally wash the eyes with weak brandy and water.

My method of treating intermittents is as follows: I bleed in the greatest number of cases, for I almost always find a determination to some of the vital parts. I give an emetic, then recommend to my patients to do nothing for their complaint until they have had about twenty regular paroxysms. I then order another cathartic, after the operation of which I give the bark, alum, and ginger combined.—Most generally, after taking the first dose, the fits leave them, and do not after again recur; never, indeed, when the patient is prudent in returning to his former habits of industry.

In this practice of treating intermittents, I stand pretty much alone. The rest of my brethren in this and in Cayuga county generally endeavour to cure this complaint without bleeding. I think I have seen the worst effects from this neglect. Intermittents, in which the bark and other tonics have been given previously to bleeding, frequently became putrid, &c. I have often seen pleuritic cases observe the type of an intermittent. What would be the effects of the usual practice in such cases?

Query 12. "What is the general duration of these fevers?"

Answer. The general duration of our fevers may be said to be about nine days. Some, however, terminate, when speedy medical aid can be procured, on the 3d, 5th, 7th, 11th days; while some cases extend to the 20th day, and even beyond that period.

Query 13. "What proportion die?"

Answer. In preceding seasons, in bilious remittents, the proportion was one in fifty. This season, I can almost say,

that not one has died in the circle of my practice, or but one, Mrs. Leech, formerly mentioned. I had not an opportunity of seeing her till the disease was in its advanced stage. I have always thought, that if depleting means had been used early in this case, it would not have ended fatally.

Perhaps it will not be improper to mention, that at no period since my settling in this country, has my practice been more extensive than at this season. I have not been able to attend, personally, to more than three-fourths of those who have called upon me. On an average, I have visited at least ten patients every day, from the 1st of July to the 20th of October. This estimate I am persuaded is too low.

Query 14. "When they recover, is the bark much employed, and with what success?"

Answer. I make but little use of the bark in our fevers. I prefer letting them recover without the use of this medicine. When they are convalescent from the fever, and when the intermissions are obvious, I do not use the bark. I find it to increase all the febrile symptoms; that the next paroxysm after the use of this medicine returns with redoubled force, and that the remissions are less obvious, and the complaint soon verges to the last stage, putrid and nervous. I have, therefore, with great caution, abstained from the use of the bark, and the usual tonics, in our fevers generally.

In periodical head-achs, and in one case of an inflammation of the eyes, I have used opium and bark, with evident advantage. In no other cases, this season, so far as I recollect, have I found much benefit from the use of the bark in fevers, except in the following: viz. when the fever becomes nervous and putrid (the very stage which is produced by the injudicious exhibition of the bark and other tonics, given prematurely) in such cases my chief dependence is upon the bark. I then give valerian, serpentaria Virgin. cortex aurant.

flor. chamomel. in decoction. In such cases, I also use epispastics, wine sangaree, elix. vit. and in some cases ardent spirits. I have often derived much benefit from the use of unguent. cœrul. rubbed upon the glandular parts, with small doses of calomel, opium, musk, and camphor, combined.

Query 15. "When it proves fatal, upon what day of the disease is that generally the case? What is the appearance of the skin; does it become yellow, or orange-coloured, or livid? When does this appearance first show itself? What is the state of the tongue? Are your patients very thirsty, as in most febrile complaints?"

Answer. When the disease proves fatal, it is, in general, on or about the 20th day. We have had one instance, in this country, of a fatal termination on the seventh day (Edward Donner, of Onondaga) who was supposed to have taken the fever by being several days on and about the Onondaga lake: one in Scipio, county of Cayuga, who died on the fifth, and one on the ninth day of the disorder. The two last were taken ill soon after being exposed to marsh exhalations, at the outlet of the Cayuga lake. A company of about twenty persons went from the town of Scipio to the outlet, where there is a large marsh, to procure hay. Twelve of the twenty sickened, and two died. About the same number went from the town of Milton, at the same time, and the effect, I am informed, was nearly the same.

It is a common thing to hear of the inhabitants of the southern towns being taken ill of fever, shortly after being exposed to the exhalations from their lakes, streams, and marshes. Doctor B. Beach, of Marcellus, who is in the employ of the directors of the western turnpike company, informs me, that in taking up a causeway, across a marshy piece of road, in the summer of 1802, five out of seven of his hands, who were employed in removing the timber, sickened. He at-

tributed their sickness entirely to the effluvia arising from the sloughy spot. All these patients recovered.

The tongue at first appears whitish. On or about the ninth day of the disease, sometimes sooner, if the complaint does not terminate in health, it begins to assume a brown colour, sometimes a black colour, and is much furred. The teeth, about the same time, become black, and covered with a brownish or black crust. The patients, in this as well as in the preceding stages, are very thirsty, often beg, and if denied will take, large draughts of water.

Query 16. "What is the state of the stomach? Is it apt to be in a very disordered state? When does irritation of this organ usually discover itself, and in what way? What is the appearance of the discharge from it? Is the *black vomit* of matter resembling coffee-grounds a common occurrence, and is it usually a fatal symptom? Upon what day of the disorder does it usually occur? Do hemorrhages frequently occur? How is the brain affected? What is the state of the pulse?"

Answer. An affection of the stomach may, in general, be considered as one of the first symptoms. I have often been called to patients taken in the night, and found them discharging from the stomach yellow and green-coloured bile. This irritation sometimes continues through the disease. I often cure it by the application of an epispastic to the region of the stomach, with bleeding and an emetic. The irritation generally goes off the second or third day.

The discharge resembling coffee-grounds is a rare occurrence. I have met with but one instance of it since I have resided in the western country. This was in William Gilchrist, jun. His complaint was uncommon throughout. He was taken ill in the fore part of the season, with a vomiting of bilious matter, which continued, without much abatement, for three or four months. The quantity of bile which

he discharged in this way is almost incredible. When I was called to him, a few days previous to his death, I found him emaciated to an astonishing degree. He had a hemorrhagy from his gums; or, rather, an oozing of blood from them. There was a tumefaction of the liver, and he vomited several times while I was with him, a matter resembling coffee-grounds. Notwithstanding his weakness and almost constant vomiting, he lived seven days after I saw him. He continued, until within a few moments of his death, to discharge not only his diet, but every thing that had been administered to him. *This, I say, is the only instance of* BLACK VOMIT *that has ever, to my knowledge, occurred in this country.*

Hemorrhages often take place, though none have occurred this season. I have met with them from the nose, the ears, the lungs, and the gums; from the uterus and urethra; from issues, setons, and ulcerated legs: but not, generally, to an alarming degree. They are easily subdued, and are seldom fatal. I have never, in any instance, seen a hemorrhage from the pores or surface of the body.

On their first attack, our fevers are evidently inflammatory, and a determination is generally discovered to some vital part. When congestion appears, or a determination to the head, delirium is the consequence. This symptom, however, with the others, generally goes off soon after using evacuations.

In some cases the head is periodically affected. To persons thus diseased, after depletion, I have given large doses of the bark and opium, which, with blisters, will generally effect a cure.

The pulse is full and strong. In the first stage, it sometimes exceeds 120 strokes in a minute, and is frequently found beating from 95 to 115. I have met with some cases in which the pulse was much slower, proceeding from an ap-

proximation to indirect debility.——I have met with the intermittent pulse; with a soft slow pulse: this happens where the brain appears to be most affected. But in all these preternatural states of the pulse, venesection will abate its frequency in the one case, and increase the number of pulsations in the other.

Query 17. "What treatment do you find the most successful?

Answer. In replying to query eleventh, the mode of treating our epidemics in former seasons, as well as in this, was described. The simple mode of treating them, which has been practised this season, at first view, appears to have had the best effect. Whether this has been owing to any essential difference in the disease itself, making it different from the epidemics of preceding years, can only be known with certainty, by trying it for several successive years. My own opinion, which corresponded with that of most of the practitioners in this quarter, is, that the fevers of this season have been much more inflammatory than has generally been the case.

The practice of giving nitre, as a febrifuge, instead of antimonials, in our fevers, has not, until this period, been much in use in this country; neither has the infusion of little solomon's seal ever been given by any regular practitioner in this country, to my knowledge, till I recommended it. I found that the Indians used it in fevers, by the name of "white-root." This suggested to me the propriety of trying its effects. I found it to form an agreeable mucilaginous drink, and have used it myself during the whole of the season. Those physicians to whom I have made mention of its apparent good effects, after recommending it themselves to their patients, have told me that they thought it an excellent drink in fevers, and preferable to any in common prac-

tice. I am so well persuaded of deriving benefit from it, that I shall continue to use it until I shall think otherwise.

Supplementary Answer to Query 15.

The appearance of the skin, on the first attack of the disease, is sometimes natural, but often of an orange colour. This occurrence generally disappears as the disease advances, especially where the depleting means have been freely used. I know of but few cases in which the skin was yellow after death. This appearance may be said to take place once almost every year, in some part of the Military Tract. It happened in the case of Elijah Laurence, who died in the fall of 1800. It has occurred once this year in the town of Scipio, and I have heard of three or four other cases, in different parts of this and Cayuga county, since my residence in the western country.

There is one symptom which has appeared to distinguish the epidemic of 1800. Glandular swellings were frequently met with. They generally discharged a good pus, and this was a favourable symptom. I had one patient, in the period last mentioned; a son of C. V. O. who had a number of glandular swellings, which suppurated and discharged pus of a healthy appearance. After some time, and when he appeared to be recovering, abscesses formed in other parts of his body. I opened, at different times, about thirty of them; they all discharged pus of a proper colour and consistence; he was neglected a few days; and a large abscess formed upon one ham, which discharged so much, that he began to fail; and, just before death, matter issued from his ears. He died without a struggle.

VII.

Observations *on the advantages of exposing* **Wounds** *to the* **Air** *after capital operations, with some remarks upon the removal of* **Scirrhus Tumours** *from the* **Breast.** *Communicated in a letter to* **Samuel Bard**, M. D. *President of the College of Physicians and Surgeons, by* **David Hosack**, M. D. *Professor, &c.*

New-York, June 29, 1813.

Dear Sir,

Many years since, you related to me the case of a patient whose limb you amputated, in which you found great difficulty in restraining the hemorrhage, but in which you at last succeeded, by keeping the stump exposed to the air a considerable length of time after the removal of the limb.

Although hemorrhage has ever constituted one of the most formidable embarrassments attendant upon surgical operations, and much ingenuity has been exercised in devising a great variety of astringent and other applications, for the suppression of it, yet this practice has not, to my knowledge, sufficiently attracted the attention of surgeons. Mr. Cooper, one of the latest and most respectable writers on surgery, incidentally notices the styptic effects of cold air, in promoting the contraction of the vessels; but he appears to introduce the remark for the purpose of showing, that no dependence is to be placed upon it, for he adds, that, "upon the wound being dressed, and the patient placed in bed, not an hour elapses before the renewal of the hemorrhage necessitates us to remove the dressings."*

* See Cooper's Dictionary of Practical Surgery, Dorsey's edition, vol. i. p. 438.

In the following case, which, from the advanced age of the patient, the duration of the disease, his debilitated habit of body, and other circumstances, was of all others the most unpromising, the exposure of the limb was attended with the most beneficial effects; as such, I communicate it to you through the medium of the Register, believing that this plan of restraining and of preventing the return of hemorrhage, may prove a valuable auxiliary in the hands of others under similar circumstances.

General William Crane, now resident in the vicinity of Elizabeth Town, New-Jersey, was a lieutenant in one of the New-York regiments, at the commencement of the revolutionary war, and was at the taking of St. Johns, (Canada,) in the year 1775. While engaged in laying a platform on the batteries, he was struck by a shell on the inside of the leg, a few inches above the ankle joint. Although the blow was violent, and injured the tibia as well as the soft parts, such was the fervor of his mind, that he totally disregarded it for twenty-four hours, when inflammation ensued, which ended in ulceration and a caries of the bone, that continued until the removal of his limb. His system has been greatly debilitated by the discharge from this long continued and extensive ulceration; but possessing a strong constitution, an equal and amiable temper of mind, and observing the greatest regularity and temperance in his mode of living, he has, in all other respects, enjoyed a considerable share of health, notwithstanding the drain he has sustained for nearly forty years.

The following extract of a letter from his attending physician, Dr. Isaac Morse, of Elizabeth Town, contains the most important circumstances which took place prior to the operation:

Elizabeth-Town, April 29, 1812.

DEAR SIR,

I have been conversant with General William Crane and have had knowledge of the ulcer on his leg, upwards of twenty-five years; he has been, and now is, one of the most temperate men I ever knew; he spared no time, pains or expense, to obtain relief, but has found none. On the 12th day of December last I visited him. At that time he was under the care of Dr. Cook, of Bound Brook. We found the ulcer very large and deep, a great part of the tibia bare and carious, with a considerable hemorrhage from the capillary vessels, together with the usual discharge from the ulcer, by which the General had become very much reduced. The course or channel of the tibial artery lay exposed to view. We were of the opinion, that the artery would soon be destroyed, and advised every precaution to be taken, should it happen in our absence; but very fortunately for him, when Dr. Cook was dressing the ulcer on the nineteenth day of December last, in my presence, the artery burst with such a violent hemorrhage, that with all our attention he lost at least twenty ounces of blood, which added much to his debility; but the artery was taken up and secured by a ligature. A considerable swelling of the leg and foot took place below the ligature, and continued for some time after, when the ulcer put on a more healthy appearance; those parts which were not irritated by the carious bones soon began to heal; and the General to recover his strength. I was unable to attend him on account of a fracture of my arm. Doctor Cook attended as usual; in about seven weeks I again visited him, found him in better health, and his strength greatly improved, the ulcer as when I left him, with the tibia almost destroyed. I then, for the first time, advised him to have his leg amputated, before which time the great debility of his body, by reason of the loss of so much blood, rendered

the operation, in my opinion, very doubtful. I am, dear sir, with great regard, yours, &c.

ISAAC MORSE."

A consultation of the physicians of Elizabeth-Town and its vicinity being held, it was decided, that unless the leg was immediately removed, he must inevitably sink under the discharge he then sustained.

On the fourth day of April last, I was requested to visit General Crane, for the purpose of performing the operation, if, upon another consultation, an amputation of the limb should still be thought expedient. I found the patient very much emaciated, his leg swelled and œdematous, the ulcer very extensive, but of a healthy appearance, and discharging well-formed matter.

Under existing circumstances, we were unanimously of opinion, that unless the operation should be immediately performed, the General must sink in a very few weeks, and that his only resource was in the loss of his limb. The result being made known to him, with his characteristic firmness, he at once yielded to our advice.

I immediately proceeded to the operation, which the majority of those present thought it advisable should be performed below the knee.

Upon the first incision being made through the integuments, a very large quantity of serum was discharged from the cellular membrane; upon dividing the muscles, these also were found in a very pale and flaccid state, exhibiting very little of that retractive power which usually takes place upon amputation. The bones were then divided by slow and steady movements of the saw, to as to prevent their edges from splintering, an accident which frequently occurs in consequence of the rapidity and violence with which surgeons usually conduct this part of the operation, and which seldom fails to end in a tedious caries of the bone so splintered.

To my great surprise, it became necessary to secure six large arteries, which, probably, had become thus enlarged in consequence of the anterior tibial artery having been tied some months before, as stated by Dr. Morse. The tourniquet being loosened, the blood still continued to flow profusely from the whole surface of the stump, even from the vessels of the bones.

As it was not possible to detect any particular arteries from whence the hemorrhage proceeded, I resolved to restrain the discharge, at first, by moderately tightening the tourniquet for a few minutes, and afterwards to leave the stump exposed to the air, until the bleeding should totally cease. I accordingly directed the persons present, excepting my assistants, to withdraw into another room; the windows to be raised, and some wine to be given to the patient, who was somewhat faint and exhausted. The stump was then exposed to a stream of fresh cool air; the hemorrhage immediately abated, and in a short time totally ceased, when the tourniquet was entirely taken from the limb.

After thus exposing the stump to the air about half an hour, (and, as I find, exposing myself to the censure of some of the by-standers, who, with watch in hand, counted every minute that passed,*) I proceeded by means of a sponge and warm water, to remove all the coagulated blood from its sur-

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* Having been severely censured by some of the *surgeons* of the village, for keeping my patient upwards of forty minutes on the operating table, I feel myself constrained to ask the same question Mr. Bloomfield, of St. George's Hospital, addressed to a pupil who pulled out his watch at the moment the Doctor was about to commence his operation, "What, sir, do you intend to measure the movements of my hand, as you would a horse's feet," adding, "Sir, let me tell you, that that operation is always *soon* enough done that is *well enough* done." Macbeth, when about to commit murder, says,

"———————— 'twere *well*
It were done *quickly*."

But this should never be the surgeon's motto.

face; no further hemorrhage ensued: the wound was then dressed in the ordinary manner; the patient conveyed to his bed; the limb lightly covered with a sheet, and a tourniquet loosely placed upon the thigh. An anodyne of fifty drops of liquid laudanum was then administered, and a direction given to repeat the same quantity at night, if pain, spasm, or great restlessness should render it necessary.

Upon the following day, I had the pleasure of receiving a line from Dr. Morse, informing me that our patient had passed a very comfortable night, without hemorrhage, pain, spasm, or any untoward symptoms. On Thursday, the eighth, I again visited General Crane, and dressed his limb. Upon removing the dressings, which had been previously moistened by spirits, the wound, to our surprise, was united throughout its whole extent, excepting at the lower angle, and another aperture through which the ligatures were passed, and discharged a well digested matter, without the least tinge of blood. Upon the seventh day after the operation, the ligatures came away; the patient was then put upon the use of bark and wine; the limb daily bathed with spirits at each dressing; the wound at the same time excited by an injection consisting of a solution of the sulphate of zinc in rain water, in the proportion of four grains to the ounce; the surface of the wound covered with dry lint and a light compress of linen; and the whole retained by a flannel roller.

By this general and local use of stimulants and tonics, and a corresponding attention to the diet and regimen of our patient, in about four weeks his wound was closed, and his health so far restored, that he has been enabled to resume the direction of his farm, with the prospect of adding many happy years to his life, to the great gratification of his family and his numerous friends.

Whatever may be the opinion we form of the process nature employs in checking hemorrhage, this case under all

the circumstances attendant upon it, like that you related, is an evidence of the good effects of exposing a bleeding wound to the air.

Whether we believe the hemorrhage to be restrained by the formation of an internal* or an external coagulum, by the effusion and coagulation of blood in the surrounding cellular membrane,† by the retraction‡ of the artery, a constriction§ of the circular fibres of its extremity, or an effusion of lymph‖ from the divided vessels and the inflamed vasa vasorum, in either case, the long continued application of a stream of fresh air upon the part, is well calculated to prevent the evil to be apprehended; at the same time that the stimulant effects of the air, in cases like the present, will probably not a little contribute to excite that degree of inflammation in the wound which is necessary to accomplish the union by first intention. Its benefit, in this respect, was very apparent; for such was the enfeebled state of the general's constitution, and as has already been remarked, so relaxed were the parts themselves, that an immediate union of the sides of the wound was scarcely to have been expected without the aid of some local additional stimulus.

During your last visit to this city, in the early part of this month, you also had an opportunity of witnessing the success of this practice in restraining a very tedious and troublesome hemorrhage, which took place after an amputation of the breast. In that case, as is usual after that operation, although I had secured ten arteries by ligature, the discharge of blood was very considerable from the whole surface; but after remaining exposed for half an hour, the hemorrhage having totally ceased during the greater part of that time, the wound was dressed, and as in the former case, upon

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* Petit. † J. Bell. ‡ Pouteau.
§ Morand, Gooch, White, Kirkland, &c. ‖ Jones.

dressing it four days after, its sides were entirely closed, excepting that part through which the ligatures were passed. I have great pleasure in adding, that the patient has perfectly recovered.

In this too, as in the former case, the healing process was greatly promoted by the free use of bark and wine, a generous diet, daily bathing the parts with spirits, and by injecting into the wound a solution of the sulphate of zinc. I mean that these advantages were obtained after the first inflammatory stage had subsided, and the purulent secretion had taken place; for in the treatment of wounds, as well as in that of ulcers, surgeons cannot too carefully distinguish between these two stages, which may with great propriety be denominated the *active* and the *passive* stages of an ulcer or a wound.

As I have adverted to the extirpation of the breast, I cannot close this letter without mentioning the benefits which I have derived upon this subject from the valuable cases recorded by professor Richter;* and which do not appear to be sufficiently known and appreciated in this country. I refer more particularly to his treatment of scirrhous and cancerous breasts, in which he recommends the removal of the entire breast, even though the disease may be limited to a single gland.

In the first case of this nature in which I was called upon to operate, as early as the year 1795, the disease was confined to a small part of the breast, the remainder being apparently in its natural and healthy state; it was the opinion of all present that it was only necessary to remove the gland affected; this was accordingly done; but, within three months after, the other portion of the breast became diseased, when a second operation was rendered necessary for its total removal.

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* Medical and Surgical Observations by Aug. Gottlieb Richter, M. D. Professor of Medicine in the University of Goettingen, &c.—Edin. ed.

Similar cases have also occurred in the practice of others, and in some instances the renewal of the disease, the constitution having been enfeebled by the first operation, has ended fatally. Since that period, I have uniformly performed this operation by removing the whole glandular part of the breast, but retaining the integuments, except when they also have partaken of the disease; and in every case so operated upon, the patient has afterwards remained perfectly free from any return of the complaint.

This fact leads to two important conclusions. 1st. That in most instances the scirrhous or cancerous affection of the breast is a local disease, and not a constitutional one, as many physicians have supposed.

2dly. That in those cases, where only the part of the breast was removed, and the remainder had become subsequently affected, the latter disease had probably been induced by the inflammation occasioned by the operation in removing the first, and not from any vice of the whole system; for in those cases which I have witnessed, the secondary disease commenced during the existence of the inflammation which the operation had excited, and before the wound had entirely healed.

I am, dear sir,

with great respect and esteem, your's,

DAVID HOSACK.

SAMUEL BARD, M. D. &c.

REVIEW.

ART. I. THE LECTURES, *corrected and improved, which have been delivered for a series of years in the College of New-Jersey, on the subjects of* MORAL *and* POLITICAL PHILOSOPHY, *by the Rev.* SAMUEL STANHOPE SMITH, D. D. LL. D. &c. &c. New-York. Whiting & Watson. 8vo. 2 vols. Vol. 1st. pp. 324. Vol. 2d. pp. 386. 1812.*

OUR partiality for our native country is such, that we cannot view with indifference the success or failure of any effort of American genius, and as the author of the above-mentioned work is one of the few among our countrymen who have contributed, by their literary labours, to the advancement of science and the cultivation of our taste, we commenced the perusal of this performance with no ordinary share of interest and attention. Our solicitude was also, in no small degree, augmented, in the present case, by a thorough comprehension of the very arduous nature of the undertaking. Moral philosophy has, at all times, been regarded as one of the most important and useful branches of science, and has, in consequence, been sedulously cultivated by the ablest hands, both in ancient and modern times. On this subject, many profound lessons of wisdom may be derived from the works of Plato, Epictetus, Plutarch, Cicero, and many others of the ancient philosophers; but more especially from those two immortal tracts of Aristotle, entitled his ethics and politics, in

* The following review, it will be perceived, is the production of no ordinary writer. Though written on a subject not altogether within the general plan of the Register, it is presumed our readers cannot but be gratified with its appearance in this place. ED.

which we discover the traces of that stupendous genius, which gave to his opinions such oracular authority, and to his name such unbounded sway, for so many centuries, in the intellectual world. Since the revival of letters in Europe, the interests of this branch of science have not been neglected; but by no writers, who have come within our reach, has it been so systematically pursued, and so successfully investigated, as by Hutcheson, Paley and Beattie, who have recently favoured the learned world with works upon this subject, that will long remain, particularly those of the two last mentioned authors, noble monuments of their genius and erudition. Into this treasury, thus replenished, our countryman, the reverend president, has now cast in the stores of his intellectual wealth, and, we think, that by the liberal and intelligent both at home and abroad, it will be admitted, that by this addition it has been not a little enriched. It was a bold undertaking, it is true, to enter the lists with so many and such illustrious competitors; but from the ability of his previous works we anticipated much, and have not been disappointed. His treatise on the "Causes of the Variety in Figure and Complexion in the Human Species" is, in our estimation, one of the most profound and learned philosophical productions of our country, and such as would do honour to any philosopher of Europe. We consider ourselves as tolerably versed in the writings of the most celebrated preachers, who have adorned the pulpits of France or England, and have, occasionally, dipped into those of the Latin and Greek fathers, and we do not hesitate to pronounce, that the volume of Sermons he has published, whatever may be its faults, which, perhaps, are inseparable from all the works of man, will not be diminished by a comparison with the finest specimens of pulpit eloquence with which they have yet furnished us. His "Lectures on the Evidences of the Christian Religion" hold a respectable rank among the treatises of

Stillingfleet, Grotius, Paley, Beattie, Porteus, and those numerous writers on the same subject, who have displayed such masterly force of reason and such extent of erudition.

His "Lectures on Moral and Political Philosophy," the work, with the merits of which it is our present purpose, as far as we are able, to make the public acquainted, fully answer the expectations excited by his prior efforts, and we hesitate not to pronounce, is a master-piece of that kind of writing. We discover in it the same just and comprehensive views of things, the same philosophical cast of thinking, and acuteness of investigation, the same vigour of conception and felicity of illustration, and the same neatness, perspicuity and elegance of style, that distinguish all his other performances, and render him, undoubtedly, one of the most correct and able writers our country has produced. But lest we should be accused of indulging the language of extravagant panegyric, and of giving way to an overweening partiality for a favourite author, let us proceed to justify ourselves for the encomiums we have passed upon him, by giving a brief analysis of this work, and occasionally exhibiting, in extracts, such specimens of it, as shall enable our readers to judge for themselves.

In his introductory lecture, he defines, with peculiar precision and perspicuity, the nature and design of philosophy, and prescribes to himself on this branch of science those rules of philosophising which, ever since the age of the great Newton, have been followed in natural philosophy with such vast advantage to the science. We think that our author has been uncommonly happy in this introductory lecture, and that it is, decidedly, the best we ever recollect to have seen prefixed to any philosophical work. He has marked out in it the boundaries of that department of the sciences, of which it is his purpose to treat, and those that, in all of them, circumscribe the investigations of the human mind,

with such clearness and accuracy, that it cannot fail to be read with the greatest advantage by all those who wish to become acquainted with the true limits to which their faculties enable them to extend their researches, and with the best and most effectual mode in which those faculties may be exercised in the discovery of truth. By excluding all hypothesis from his system, and resting his conclusions upon fact and experiment, he has raised the superstructure of moral science upon a solid and durable foundation, and resorted to the most effectual means by which to push it on to its ultimate perfection, and attain the desired end of truth and certainty. It is in this respect principally, that modern philosophers have obtained advantage over the ancients, that, ever since the days of Bacon and Newton, rejecting all attempts to explain, by conjecture, the phenomena of nature, they have rested their systems upon the substantial basis of experiment. But upon this subject, we beg leave to refer our readers to the author himself:

"Philosophy is an investigation of the constitution and laws of nature, both in the physical and moral world, as far as the powers of the human mind, unaided by the lights of revelation, are competent to discover them. In this inquiry we can proceed, with any reasonable prospect of arriving at truth, only by a careful and extensive induction of facts, whence we may hope ultimately to attain to some acquaintance with the principles and causes of things. In the physical world, a minute and patient observation of the phenomena of nature, and, in the moral world, of the conduct of men, individually, and in their various social relations, is the only method by which we can gain any certain knowledge of their constitution, or of the springs and laws of their action respectively. We are, evidently, not endued with powers by which we can immediately inspect their essence, and discern their intimate structure, and thence be able, antecedently to experience, to anticipate the effects of their action, either singly, or in any possible combi-

nation. In order to understand the works of an infinite mind, and to draw from them any useful information, a being so limited in his capacities as man, should be contented simply to observe their effects with attention, and carefully to remark how those effects are varied in different situations and connexions, whence only we can form general rules concerning their operation in all similar and analogous cases. The wisdom of modern science has justly excluded from philosophy all hypotheses, by which the operations of nature are attempted to be conjecturally explained. Indeed, when a mind so feeble in its powers, and circumscribed in its views, as that of man, attempts to explain by conjecture the infinite plans of the Deity, or to unfold, *a priori*, as it is called in the language of the schools, the phenomena that result from their inscrutable structure, it is perhaps impossible that it should not err, or that it should approach even near the truth. Let hypothesis have antecedently formed its conjecture on any phenomenon in nature, with which experiment has since made the philosopher in some degree acquainted; as, for example, on the manner in which the eye perceives objects by the rays of the sun; or on the laws of that spark which we elicit by friction from a cylinder of glass; no man can doubt but that, before the principles of optics were discovered, and the structure of the eye laid open by anatomical dissection, or before the science of electricity was explained, ten thousand conjectures might have been framed, and all should have been almost infinitely and equally distant from the actual fact. Experience, therefore, and a diligent and attentive observation of the course of nature, and of the actions of mankind in every variety of situation in which they may be placed, is the only legitimate mean of attaining a competent knowledge of the laws of either the material or the moral world. But when experience has once conducted us from effects up to their causes, we may, in analogous cases, be reconducted by the same means, from causes with which we have become acquainted, to the effects which may be expected in known situations to result from them. For such conclusions, the constancy observed in nature affords us just grounds. We are taught by experience to expect a perfect uniformity of action in each cause'

when placed precisely in the same circumstances; and from similar causes, in resembling situations, to look for similar effects. This tendency to uniform results we impute to some power in the cause, which, being essential to it, and belonging to its very constitution, will always operate in the same way, when not vitiated from within, or obstructed by some obstacle from without. We pronounce it to be a necessary consequence of a law of nature; and the regularity of action which obtains throughout all parts of the universal system, we ascribe to the uniform operation of established laws. It is on this ground that we study human nature in our own hearts; and that history may be regarded as a volume of moral experiment.

"Philosophy is divided into two great branches; the natural and the moral. Nature, taken in its utmost extent, embraces the whole compass of things in the universe, whether corporeal or spiritual, physical or moral. But, in this division of the science, natural philosophy consists in an investigation of the constitution and laws of body; moral philosophy in an investigation of the constitution and laws of mind, especially as it is endued with the power of voluntary action, and is susceptible of the sentiments of duty and obligation. Its chief end is to ascertain the principles, and the rule of duty, and to regulate conduct, both in our individual capacities, and in our social relations, whether domestic or civil. This is the object of our present inquiries. But in order to attain this end, in any considerable degree of perfection, it will be necessary to enter into many important disquisitions concerning the constituent principles, the natural tendencies, and the moral relations of that sensible, rational, and moral being, who is the subject of duty.

"In the universe there may be many orders of spirit, as there are many modifications of matter. We are, however, acquainted with two only; God, and the human soul. And our knowledge of the former, which must necessarily be extremely imperfect, from the infinite distance at which we are placed from him, must be derived principally from our knowledge of the latter. But, although our conceptions of the divine mind must be far from reaching the perfection of his nature, it is important that, as far as the weakness of

man is capable of comprehending the infinity of God, the ideas which we frame of him should be consistent with truth. For the duty of all rational beings must have a reference to his will. And our nature having been formed by his almighty power, can then only be perfect, when it is evidently conformed to his design in our creation." p. 9—13.

To the inquiry, what is a law of nature; and by what process are its laws to be collected? he returns the following answer:

"The essential nature of things in which the laws of their action are founded, it has been already acknowledged, cannot be intuitively known to the weakness of the human understanding. But their laws, as far as is requisite for the purposes of science, may be understood from a less perfect knowledge. The uniformity of a multitude of facts, arising from the action of any subject, indicates some principle or power in that subject, which, though unknown in its essence, we conclude, from our experience of the constancy of nature, will, in similar circumstances, always operate in the same way. This uniformity of effect, or rather, perhaps, the unknown but constant cause on which it depends, is denominated *a law of nature.* And the several classes of uniformities, which science has discovered in the system of the universe, are consequently ascribed to so many natural laws.* And when any fact or phenomenon occurs to our observation, it is said to be accounted for, or explained, as far as the human intellect is capable of explaining or accounting for it, when it can be referred to some common and known class of similar facts.

"This observation may be illustrated by a familiar example. The electric fluid, like all the other principles of nature, is, in its essence, unknown. But the uniform effects resulting from it, in a

* For instance, the uniformities which we observe in magnetism, in the refractions of light, or in the passions and emotions of the human heart, under the various circumstances naturally calculated to excite them, are called the laws of magnetism, of refraction, &c.

vast variety of situations, are now well understood from repeated experiment. They are, therefore, denominated the laws of electricity. We wish then to explain the phenomenon of lightning. And by applying to it the same tests as to the principle of electricity, with the effects of which we are are better acquainted, we find precisely the same results. We esteem it, therefore, accounted for, as far as human sagacity can explain it, not by revealing its essential nature, which is inscrutable, but simply by referring it to the class of electric phenomena.

"In the moral world, when we perceive, in all nations, that a bare inspection of the works of nature has led mankind to the acknowledgment of a Supreme Power which presides over the order of the whole, we justly infer, that the belief of the existence of God is to be ascribed to an original law of our rational and moral nature. The parental affection, in like manner, and the social inclinations of our nature, which, in all nations and ages, and in similar circumstances, we see operating with great uniformity, we pronounce to be natural laws of our being.

"Many resembling facts, therefore, indicate a law of nature. If any new fact, with which we have not before been acquainted, occurs to our observation, if it is found, in its properties, to coincide with any class of phenomena already known, it is supposed to be accounted for by referring it to that class. Otherwise it is called a solitary fact, which, of course, is left open to future inquiry.

"Thus, in the moral, as in the natural world, by an attentive induction of facts, that is, by observing the operations of the human mind in every variety of situation in which it may be placed, in solitude, or in society, in prosperity, or in adversity, in its various relations to our creator, or our fellow men, or in positions in which all the passions may be successively called into action, which observation may, with propriety, be stiled moral experiment, we arrive, at length, at a knowledge of the laws of our moral nature." p. 14—17.

The following are the rules of philosophising which he would have observed in this science:

"1. 'That no law should be admitted on hypothesis, but should rest solely on an induction of facts.' Some reasons for this rule have been already assigned; particularly the feebleness of the human mind, and the contracted sphere within which its observation is necessarily limited. It is but lately since the science of moral philosophy has been freed from the disgrace and embarrassment of hypothesis at its very entrance, in its inquiry concerning the manner in which we become acquainted with external objects by sensation. It was first laid down as a principle, that no material being can act where it is not. The question then arose how we perceive objects at a distance? To solve this difficulty, recourse was had to the following hypothesis:—that every sensible object is continually emitting from its own body some images of itself in every direction, which the ancient philosophers denominated *ideas*, or *sensible species*, and that these aerial, gaseous, or almost spiritual images impinging upon the organ of sense, communicated, by that impulse, a perception of their subject; or rather a ground of inferring its existence, from the vivacity of the impression. Such was the doctrine of Aristotle, and from him of the whole peripatetic school. And there are some vestiges of it even in the philosophy of Locke, of which Berkeley and Hume availing themselves, denied the existence of the material subject altogether, as being wholly unnecessary.* But let the mind be relieved from the philosophic delirium of hypothesis, and form her judgments on experience and fact, interpreted by plain common sense, and we must pronounce a totally different decision. Whatever medium, in the opinion of these philosophers, nature may employ

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* If, say they, according to the peripatetic hypothesis, or the metaphysic of Locke, the principles of which were generally acknowledged in the time of these philosophers, it be only the images or ideas of objects that we perceive, and not the objects themselves, what ground can there be to infer their existence? Ideas, it is confessed, may be impressed on a lively imagination, without the presence of any external substance. And, agreeably to the scheme of Mr. Hume, the vivacity of the idea is the only criterion of truth. The reality of the material world, therefore, perishes by the fairest inference, since, according to the confession of its friends, it is not the object of our perceptions.

to connect the object with the organ of sense, whether image, or idea, or any other sensible phantasm, it is, beyond a doubt, the object itself, not its idea, which is discerned by the sense, any image or phantasm in the case, being either unknown, or unperceived, and at the time wholly unthought of. An idea is merely a conception of the fancy, or the reminiscence of an absent object.

"2. Another rule is, "that laws collected from an ample and accurate induction of facts should be deemed universal, till other facts occur to invalidate or limit the conclusions which have been drawn from them." Unless we could rely on this rule, the progress of science would be arrested almost at its commencement. Few are the conclusions which we could frame, if it required a knowledge of facts strictly universal before we could admit a general consequence from induction. And the known analogy of nature is a sufficient and satisfactory ground of those general inferences embraced within the rule. On this foundation solely, we build our knowledge of the constituent principles of human nature, the laws both of physical and moral action in man, and the acknowledged maxims of society, domestic and civil.

"3. In the third place, "laws founded on a partial induction of facts, should not be extended beyond the limits to which they are certainly known to apply." The neglect of this rule is one of the principal causes of national antipathies, and of the bigotry of religious sects. From a few facts imperfectly observed, a rash and unfair judgment is pronounced on a whole party, or a whole nation. With the same confident precipitancy have we sometimes heard the natives of Africa, who have been contemplated only in a state of savagism or of slavery, pronounced to be destitute of the best faculties of human nature; and the American continent judged to be unfriendly equally to corporeal vigour, and to mental talent. It is a rule, especially, by which we should rigourously examine the narratives of travellers, and of those writers who profess to exhibit comparative estimates of the characters of foreign nations, so seldom have they an opportunity of observing the interior of their manners; and so much more rarely do they possess the talent ne-

cessary to trace the causes of what they observe with philosophic accuracy, or the inclination to represent them with candour.

"4. A fourth rule is, "that similar appearances should, because of the uniformity of nature, be referred, as far as possible, to the same causes." On this rule, we interpret the actions of men in all their various relations in different portions of the globe; and we find them to be the same as fathers, brothers, sons, as the members of a family, or of civil society. We discern but one race throughout the whole. To take another example from a peculiar department of our nature. The belief of spectres, of the feats of witchcraft and magic, and of those little tricky or mischievous sprites, which are found among the traditionary tales of the vulgar in most of the modern countries in Europe, ought to be ascribed to the same principle; the force of a timid and ardent imagination unregulated by the science of nature, which anciently filled Egypt with magicians, and Assyria with soothsayers, and peopled the hills, the streams, and the skies of Greece, with the objects of a superstitious veneration.

"5. The last rule which I mention, is, "that the testimony of our senses, and of all our simple perceptions, ought to be admitted as true, and no ulterior evidence be required of the reality, or the nature of the facts which they confirm." The informations of the senses are intended to be ultimate. They are perfectly simple, and cannot, by any artifice of language, be rendered more obvious or clear. They are the first elements of our knowledge; and the only acquaintance which we can have with the nature of their objects is conveyed in the impression which they make upon the organ of perception. This rule is of the more importance, because philosophers, of no inferior name, have appeared in modern times, as well as in the earlier ages of science, who have denied the certainty of our senses, and have reasoned concerning their operations with such excessive subtilty, as to confound the most obvious and natural consequences resulting from their informations. While they have filled the rational and intellectual sphere with images, ideas, and sensible species, and other such shadowy forms, as substitutes for a material world, they have utterly denied the reality

of body. Others carrying their temerity still farther, have denied the reality both of body and spirit; and have equally reduced the physical and the moral world, to a mere train of fugitive and unsubstantial ideas." p. 19—24.

After giving this definition of his science, and prescribed the rules of philosophising, he proceeds, as a kind of preliminary dissertation, to the contemplation of man as an individual, and an examination into the constituent principles of his nature, which more properly and peculiarly belong to the science of moral philosophy; to take a comparative view of him, in relation to the other species of animals upon this earth; and then enters into the important and necessary inquiry concerning the identity of the human race; and from this passes on to the consideration of his prolific powers, or his faculties of continuing and multiplying his species; with some reflections on the best means of augmenting the numbers of mankind, with reference, particularly, to the population of states. He takes a view of man, in the third place, as a social being, pointing out the various forms of association, under which the race is disposed to collect itself, so different from those in which other gregarious animals are found to assemble. Lastly, he considers man's capacities of improvement, in which he so far transcends every other species of animals; under which head, he embraces the structure of language, the invention of arts, and the origin and progress of science.

In his comparative view of man, in relation to other animals, after remarking that he is distinguished from all the other inhabitants of this globe, by the exactness of his form, by a noble and commanding expression of countenance, and by an infinite number of muscles and articulations, in the structure of his limbs, which adapt them to an infinitely greater variety of easy movements, and useful purposes, than

those of any other animal, particularly in the nicer operations of the arts, without which they could never have been practised nor invented; he concludes the passage with these reflections, which, as they serve to vindicate from objections the works of the creator, and to illustrate his wisdom and goodness in the arrangements of his system of nature, and the inscrutable dispensations of his providence, I shall here insert:

"The eminent advantages of our nature above that of other animals, seem, on a superficial view, and on first impression, to be balanced by proportional disadvantages in its original imbecility, its innumerable wants, and its long dependence upon the care of parents, evils to which the young of those animals seem not to be equally exposed. Yet, a closer inspection will demonstrate, on the other hand, that these apparent disadvantages contribute, eventually, to the felicity and perfection of human nature. Do not the nakedness and softness of his skin, and the extreme delicacy of his organization, promote the fineness and softness of his feelings, and the quickness of his perceptions; just as the finest chords vibrate to the gentlest pulses of the air, and emit the sweetest sounds? Do not his wants quicken his ingenuity, and the poignancy of all his sensations tend to awaken his moral sensibilities, and to aid the transition of his benevolent sympathies? And, finally, does not his long dependence upon the care of parents, and the tedious period of their solicitudes and pains, contribute to strengthen the reciprocal ties, and sweeten the mutual endearments of the domestic affections, and thereby lay the firmest foundations of the order and happiness of civil society? What seemed at first, therefore, to be a peculiar disadvantage on the side of human nature, is discovered, on more mature reflection, to be a mean of carrying its faculties eventually to the highest pitch of improvement, and building, on their improvement, the felicity of mankind. By this order of things, as will hereafter be more particularly seen, our beneficent creator has evidently intended to promote

both the intellectual powers, and the virtuous habits and affections of the species." p. 13, 14.

On the subject of the identity of the human race, he gives us a brief summary of those arguments that go to establish it, which he has exhibited with such masterly skill and adroitness in his treatise on the "Causes of the variety of figure and complexion in the Human species," in which he has drawn us toward his conclusion, by the cords of a man, and displayed such acuteness of philosophical investigation, and such a vast accumulation of learning.

The difficulty which occurs on this subject, and which it is the purpose of the aforementioned treatise to solve, is to reconcile the varieties in form and aspect which exist among mankind, in different regions of the globe, with the fact of their original identity. The principal varieties which distinguish the different portions of the human race from one another, are ranged, by him, under the heads of stature, of corpulency, of complexion, of hair, of features, and the figure of particular limbs.

"The colour of the inhabitants of the torrid zone is generally black, modified, however, by various circumstances, such as the elevation of mountains, or the vicinity of seas. A lighter shade of the same colour prevails within the regions of extreme cold, bounded generally by the arctic circle. Below this limit, as we descend to the south, we find, in the highest temperate latitudes, the most coarsely ruddy and sanguine complexion, and commonly the most ample volume of body. A more delicate red in white succeeds. And, as we advance to the equator, we discern successively the various grades of dark complexion from the swarthy to the deepest hue of the human skin. The features are most coarse and harsh in rigourous climates, and in a state of savage or barbarous manners. On the other hand, they evolve themselves with more regularity, and with greater softness under a mild and

temperate sky, and in a refined and cultivated state of society, not yet corrupted by luxury. The Tartar is distinguished by the elevation of the cheek, and depression of the nose: and the tropical African adds to the deformity of this feature a remarkable flatness and expansion of the nostrils, and protrusion of the lips. The hair of all dark coloured nations is generally black. But, in the negro, it is also crisped like wool, and curled in a close nap to the head. With regard to the figure of particular limbs, it will be sufficient to remark, that the head of the north-eastern Asiatic, and Esquimaux is larger, the neck shorter, and the feet and hands smaller in proportion to their stature, than the same limbs in Europeans, the southern Asiatics, or the Anglo-Americans. The legs of the Tartar are short and bowed, and those of the African negro generally gibbous. Many other peculiarities have been related concerning the eyes, the ears, the breasts of females, and other parts of the body, in different nations, which hardly deserve to be mentioned. The minuter shades of difference, by which the various tribes of mankind gradually approach, or recede from one another, in their physical appearance, it would be an unnecessary labour to detail; for, if a satisfactory solution can be given of the principal distinctions which subsist among them, an intelligent mind will readily apply a similar train of reasoning to explain the rest." p. 36—38.

The causes which operate in nature to produce these varieties in the species, he reduces to three, climate, manner of living, and the state of society. By climate he means, principally, the degree of heat or cold which prevails in any region, with such other influences in the earth or atmosphere, as immediately result from these; which are usually proportioned to the distance of any place from the sun. Latitude, however, is not an exact measure of the temperature of countries, which is greatly modified by the nature of the soil, the elevation of the surface, the circumfluence or intersection of great bodies of water, and many other circum-

stances. Climate has an influence in the discoloration of the skin, not only by its immediate action on the external surface of the body, but also by the powerful effect it produces, as naturalists inform us, on the actions of the liver, that great laboratory of bile in the human system. This secretion is greatly augmented, likewise, by the superabundance of putrid miasmata evolved in such regions from stagnant moisture, and decaying vegetable substances. From whatever cause it is increased in quantity, it is known, in the same degree, to heighten the discoloration of the skin; for bile, although it puts on a yellowish appearance while it is confined within the system, yet immediately assumes a black hue as soon as it is exposed to the air; which, in a degree, takes place when it arrives in the circulation at the surface of the body. In this manner, he proceeds to give a short sketch of the argument, which he has pursued with greater amplification and minuteness of detail, in his former work, and which, in our estimation, is calculated to produce full conviction on the minds of those who will give themselves the trouble to peruse it with attention. We think that the merit of the reverend president, in this performance, does not so much consist in his having elicited hints that are entirely new, (although we are fully assured that his claims to originality, also, are as strong as most of those authors that have written well on the subjects of philosophy, since the revival of learning in Europe) as in his having, by an able exhibition of the arguments and masterly arrangement of his materials, given to his treatise the complete form and pressure of a moral demonstration. For our own part, we are inclined to think, that of all the varieties in form and aspect under which our race appears, in the various regions of the globe, the only ones which can be considered as phenomena, whose solution is attended with real and serious difficulty, are the curled hair and the indelibly black skin of the African ne-

gro: for as to the thickness of their lips, the flatness of their noses, and the gibbousness of their legs, &c. these are effects which may as easily be accounted for from the operation of known moral and physical causes, as many other appearances in the bodily structure of our race, and among that portion too whose claims to be ranked among our species are incontrovertible. The circumstance so well attested, mentioned by the doctor, of the black man in the state of Maryland, who lost his colour by degrees, and became a perfectly white one, and whose whiteness, moreover, was not of that pallid and diseased hue which distinguishes the Albino race, but exhibited that pure and healthful complexion which is seen in the ordinary class of Anglo-American labourers, goes so conclusively to prove, that the woolly appearance of the negro's hair depends upon the qualities of that substance lodged in the cells of the skin, which is its nutriment; in as much as it is stated as a fact, that in proportion as the black colour forsook his skin, and the white extended itself over his head and body, wherever there had been wool, it entirely disappeared, and gave place to a fine straight hair, almost of the softness of silk. I say, inasmuch as this single fact goes so conclusively to prove, that the curled hair of the African negro is produced by the causes to which the learned doctor ascribes it, we may narrow the controversy still more, and reduce the whole difficulties to this single problem, can the indelibly black skin of the African be accounted for from the operation of those moral and physical causes to which it has been ascribed by our author? This is, in fact, the only difficulty, in our estimation, which cannot, with the utmost facility, be removed to the entire satisfaction of any one who is not determined to shelter himself from conviction under the most wanton and stupid incredulity. On this point, the philosopher hesitates not to admit that there is a striking and stubborn difficulty. We can readily believe,

that all the intermediate shades between the fair complexion of the temperate zones, and the dark one of the torrid, may be produced by the influence of climate, the state of society, the manner of living, &c.; but how it happens, that the skin becomes permanently and indelibly black, that this black complexion is transmitted from father to son through many successive generations without any material alteration; here lies the mystery in the operations of nature, which it requires all the penetration and research of the philosopher to develop. This is the problem, and to afford a solution to it is the desideratum, hoc opus, hic labor est. And we hesitate not to declare, that the learned author, in his work upon this subject, has given a solution of this matter, perfectly satisfactory to every liberal and impartial inquirer after truth. It is not to be expected, indeed, that we shall be able to calculate the precise and determinate degree of heat, which is necessary to produce a colour indelibly black, since we have no thermometer by which this can be ascertained, as we can determine the degree of heat at which a combustible substance is raised to the point of ignition. Nor is it possible for us to decide with certainty, whether, when those nations whose colour has become indelibly black, are transferred from the torrid to the temperate zones, and, of course, the action of those causes removed which produced their complexion, nature would, by as regular and rapid a retrogade process, return to the colour of white men. This is a matter which can be determined only by experiment, as, at present, we have no data on which to form a conclusion. The presumption, however, lies entirely in favour of the hypothesis, that the dark hue of the negro will, at length, yield to the influence of our climate, and revert to the fair complexion. From our own experience, we can testify to the truth of the fact, stated by the Doctor in his treatise, which it seems some writer in the American Review, who has under-

taken the task of reviewing this work, without having given himself the trouble duly to comprehend it, has controverted, viz. that there is a marked and obvious improvement in the appearance of the household servants in our southern states, both in their forms and features, and that this circumstance is not to be accounted for, as asserted by that reviewer, by the consideration that they are taken into the families of their masters on account of their personal appearance; since, although this may, in some instances, be the case, yet, for the most part, the holder of slaves, in his selections of those who are to attend his person and domestic concerns, is influenced principally by a regard to their moral qualifications, their honesty, fidelity, industry, and tractable dispositions, and not by the comeliness of their figures, or the regularity of their features.

And in regard to the assertions of this reviewer, that the hue of those negroes, who are well fed, well cloathed, and brought up in habits which approach nearer to the children of their masters, is more dark than even the slave immediately imported from Africa, which fact, he thinks, strongly militates against the system of our author, I would barely remark, that the direct opposite of his opinion is the real truth. The negro immediately transported from Guinea is easily distinguishable from the descendants of the natives of that country. I consider the dry and adust hue of the Guinea negro as the worst possible effect that the intemperate ardours of their vertical sun can produce, as the utmost excess of the black colour; and that the ebon and glossy complexion of the household servant of a southern gentleman, although perhaps equally dark, is the first remove from that excess. But, in regard to this matter, we feel very little concern, since the merits of the question to which I would now return, and shall dismiss with a few more remarks, are not at all involved in it.

In the first place, if it be possible to account for this indelibly black colour, from the operation of any known moral or physical causes, it is against the soundest and best established rules of philosophising to look for any others to which to refer the phenomenon. No more causes of things are to be admitted than are absolutely necessary to explain the phenomena, is a maxim deduced from an observation of the invariable simplicity of nature in her operations, and has become an axiom in all philosophical investigations. If, therefore, the phenomenon of this permanently black complexion in the African can be explained upon the assumption of the original identity of the race, from the operation of the causes which have been assigned, it would be an outrage upon the primary and fundamental rules of reasoning to admit a diversity of origin. This reasoning is so clear and conclusive, and, withal, so philosophical, that we should have been utterly astonished at any attempts to impugn or invalidate it, more especially from those who are always forward in expressing their supreme devotion to the principles of philosophy, had we not been well acquainted with the endless manœuverings and stratagems, inconsistencies and tergiversations of the whole tribe of unbelievers. To their grand purpose, indeed, the extermination of christianity, they adhere with the steadiness and pertinacity with which the needle turns to the pole; but, in regard to the grounds on which they shall conduct their assaults, and the expedients to which they shall have recourse in order to effect its ruin, they are as variable as the wind. The reviewer before alluded to, discovers extreme solicitude to shelter himself from the imputation of entertaining views inimical to religion, in his attempts to refute the arguments of our author, so much so, that by his very laboured and overwrought effort to exculpate himself from the charge, he has rather left in the mind some suspicions of his sincerity; but his illustrious predecessor, Lord Kames, is less scru-

pulous and timid, and unblushingly indulges his sneer. But whatever may be the outward professions or inward sentiments of this reviewer, or any of his auxiliaries, there cannot be the smallest doubt, that hostility to our religion is the source in which originated the opposition to the doctrine maintained by the Doctor. Complaint has been made, that the interests of religion have been identified with those of this abstract and philosophical question, and its fate involved in the success of a theory; but, the fact is, that, in the present case, it is impossible by any effort to disentangle them from each other. Does not the account given us by Moses naturally lead us to conclude, that Adam was the great forefather, from whose loins sprang the whole of our race, and that God formed of one blood all the nations of the earth? Do not the scriptures expressly assert, that after the flood the whole earth was overspread by descendants of the three sons of Noah? Further, if the doctrine of the identity of the race be not a fundamental truth of our religion, it is inseparably connected with those which are. That the fall of Adam subjected us all to the dominion of a depraved nature, to sin, misery, and death, and that the sacrifice of the Redeemer became, in consequence, necessary to retrieve our losses and regain our forfeited blessings, are doctrines which lie at the foundation of christianity. Now, how could the effects of Adam's transgression be extended through the whole race, but by virtue of the relation in which he stood to all as their great representative and federal head? Could all mankind be supposed, with any show of reason, to have died in him, and afterwards been made alive in Christ, unless they were his lineal descendants? Not only, therefore, is the whole philosophy of man confounded, as asserted by our author, by that hypothesis which divides the kind into different species, but the whole system of revelation also, and the whole plan of salvation through the Redeemer. So that,

in truth, the Rev. Doctor, in advocating with such irresistible force of argument as he has done, the identity of the human race, was not so much engaged, as he modestly says of himself, in defending the outworks of our religion, or in carrying his attacks into the enemy's camp, as in fortifying and protecting the citadel itself.

If, in the present instance, he has made successful excursions into the fields of natural science, he has returned laden with spoils to enrich and adorn the sanctuary of his God. We would, however, by no means be considered as indulging in such reflections as the foregoing, with a view to preclude a fair and philosophical investigation of this subject, or to shelter ourselves from opposition behind the infallibility of holy writ. The truths of christianity can never receive any detriment from the most rigourous examination of a sound and just philosophy.

The researches and discoveries of true science, instead of having impaired the credibility of our scriptures, have rather thrown light upon that sacred volume, and corroborated and established the evidence of its truth. The point now under discussion affords a striking exemplification of the truth of this maxim. What account of the origin of our race and the peopling of the earth, could be more simple, rational, and consonant to the principles of a sound philosophy, than that which is contained in the Mosaic history. Had our sacred scriptures informed us, following the fabulous legends of heathen antiquity, that the founders of the different nations had their descent from the gods, or sprang up, like the men of Cadmus, from the teeth of serpents sown in the earth; or, that the dark coloured inhabitants of the south were formed out of the black mud of the Nile, what rare sport would they have afforded to cavillers! Had they even espoused the opinion of Lord Kames, and given to each distinct nation a different progenitor, or that of those who sup-

pose the African to be of the same kind, indeed, but of a species inferior to white men, the scene which has been exhibited in this controversy would have been completely reversed. What learned dissertations would then have poured upon us, from the school of infidelity, concerning the simplicity of nature in her operations, and those established rules of philosophising, which excluded the admission of any more causes in the explanation of phenomena than are indispensably necessary. Thus the enemies of our religion can espouse, or desert, the principles of philosophy, according as it suits their purpose at the time. There is no possible form in which a divine revelation could have been made to us, which would have secured it against their wanton and unprincipled attacks. They can assume all the shapes of Proteus, and give to their doctrines all the colours of the chamelion, in order to accomplish their favourite object, the utter extirpation of the christian faith.

In the next place, in reference to this question, I would remark, that the whole weight of proof, (and there is a vast accumulation of it) is in favour of the identity of the race; while on the other hand, we are driven into the very improbable and unphilosophical hypothesis of a diversity of origin, only by the difficulty which we meet in our attempts to solve the phenomena exhibited in their figure and complexion. Every possible consideration which can at all enter into an argument of this kind, leads us to conclude, that the black colour of the African is an effect produced by the intemperate heat of his climate, and yet we shrink from a conviction of that truth, because we cannot comprehend the secret process by which nature operates such a wonderful change in the appearance of our species. Nothing can be more dishonourable to the physiologist and philosopher, than to evade the evidence of truth by such a subterfuge. It is, for example, an unquestioned fact, that warm climates have

a powerful influence in the discoloration of the human skin. It is equally certain, that the same effect is, although in a less degree, produced by the state of society and the manner of living. It is certain also, that in proportion as the climate becomes hotter, the bilious secretions become more copious, and these tend to darken the complexion of men. It is to be observed, moreover, that the effects of the temperature of climates upon the skin are visible in our approach to the equator, the hue gradually deepening, until at length, in all tropical regions we find the colour of the inhabitants generally black. Now, with these premises in our possession, is there any resisting the conclusion, that in the interior of Africa, where all the aforementioned causes act upon the inhabitants in their utmost power, their indelibly black hue is the result of that action? From a peculiar concurrence of circumstances it is known, and demonstrated by our author, that that portion of the earth inhabited by the negro, is more intensely hot than any other, and of course there also, the bilious secretions have their worst effect, in darkening the complexion. The debilitating influence of their intemperate climate, that totally unfits them for any mental or corporeal exertion, has prevented them from making any advancement in the sciences, or improvements in the arts, and thus, at all periods they have continued in a state of the deepest debasement and savagism. When all these circumstances, which, it is admitted on all hands, contribute to the degeneration of our race, are taken into consideration, they appear to afford an easy and satisfactory explanation of all those varieties, singular as they are, exhibited in this portion of the inhabitants of our globe, so different from any thing to be discovered in all the rest of their species.

I shall conclude my remarks upon this topic, by hazarding an argument in favour of the identity of our race, or, in other words, that we are all descendants of Adam, our great ori-

ginal stock, which I do not recollect to have seen touched on by any writer upon this subject, and yet it appears to me to carry along with it strong, if not conclusive evidence. It may be denominated the historical proof of the identity of the human race, as the others that have been alluded to may be termed geographical or physiological. It is the following: There are but two opinions that have been advanced in oposition to our doctrine that have the advantage of the slightest plausibility to recommend them, (if, indeed, we can justly bestow that honour upon these;) the one, that of Lord Kames, who supposes that for each portion of the human race, distinguished by varieties of aspect and figure, the creator formed a distinct progenitor; and that of those who imagine that the African is of the same kind or genus with the whites, but of an inferior species, a sort of connecting link between man and the ourang-outang. The opinion of Lord Kames is so unphilosophical and improbable, that few persons would feel inclined to give it a moment's serious examination, and should there be found any who do, they may see an example and masterly refutation of it, in the appendix to the work of our author on this point. Upon the hypothesis of his lordship, we must not only trace to a different original the Grecian and Roman head, the Simoide and Hindoo, the German and Italian, the English and French physiognomy, but dark haired and red haired people, those of the sanguine and brown complexion. In regard to the hypothesis, that the African negro, although of the same kind, is of an inferior species to the whites, which is the only opinion on this subject that has any verisimilitude to support it, I beg leave to fix the attention of the reader on the following remarks. Sacred, as well as profane history, leads us to the conclusion that that portion of our race who inhabit the temperate zones of Europe, Asia and America, were originally planted in the east, and from thence gradually diffused them-

selves throughout the whole earth. After the flood, Japhet and his posterity peopled the West; Shem and his offspring the eastern countries beyond Euphrates, and Ham and his family went to the south. Now is it to be believed, that in the various radiations of the race over the different countries of the globe, none of them extended themselves into Africa, or that part of it inhabited by the negro? Wherever modern circumnavigators have pushed their discoveries, whether into North or South America, to the isles of the Great Pacific or Indian Ocean, they have found the race of man, so industriously had he traversed the earth of which possession and dominion were bestowed on him, in the beginning, by his creator. And was it into the interior of Africa alone, a country so easily accessible to them, that the race did not penetrate? The previous occupation of the territory by an inferior species of animals would no more have excluded man from obtaining a settlement there, than the previous existence of the ape or ourang-outang. And if he did gain access into that country, and the moral and physical causes operating upon his system, did not reduce him to the form of an African as we now find him; why do we not discover him there as in the temperate zones? How happens it that the peculiar figure and hue of the negro, is confined to that country solely, if they be not the natural product of the climate and the manner of living of the inhabitants. In the first notice taken of these people by the ancients, we find that they exhibited the same appearance, as at present, and the skin of the Ethiopian becomes proverbial, while they seem to entertain no doubt that it is the effect of their intemperate climate, and consider this complexion as naturally belonging to those torrid regions. Now, if the negro be of an inferior species of the race, is it to be believed, that none of the higher species, amidst their infinite migrations through every region of the globe, would have been found intermixed among them,

and that a fact so important would have been recorded in history? To me it is utterly inconceivable. That the negro, therefore, is of the same species with the whites, possessing as they do all their corporeal and mental properties, appears to me to be a truth established by an evidence that amounts to the highest grade of moral certainty. In what manner nature operates to produce all those wonderful changes in their aspect and figure, so unlike the inhabitants of milder climates, will be found satisfactorily explained in the work of the philosopher of Princeton before alluded to, which is so much enriched by erudition, and does so much honour to the literature of our country.

In the further prosecution of that comparative view of man, in relation to other species of animals on this earth, the several objects to which he turns our attention are, his longevity, and his powers of continuing and multiplying his race, with reference, particularly, to the most successful means of augmenting the population of states; his social dispositions, and the various forms of association under which the species is inclined to collect itself; and, lastly, his susceptibility of improvement, which leads to the invention of arts and advancement of the sciences. The numbers of mankind, he informs us, will be most successfully augmented by instituting the laws of marriage; by establishing a wise system of property in the soil, which secures to each man his rights, whether consisting in the portion of land allotted to him, or in the free and entire use of the fruits of his own labour; the adopting of such territorial regulations as will tend to throw the land, as much as possible, into small and nearly equal divisions; the cultivation of frugal and simple manners among the people, and by the peculiar kind of provision which custom has rendered necessary in their diet. The forms of civil government, all of which spring out of the domestic state, are either simple or mixed. The simple

forms of association are, democracy, aristocracy, monarchy, and despotism; the mixed, are either republican or monarchical. On each of these topics, he enlarges with his usual clearness of comprehension, perspicuity of style, and happiness of illustration, and so successfully condenses within the compass of a few maxims, the substance of all that has been said by the most approved writers on these subjects, that this part of the work will be perused with peculiar interest and advantage by every American statesman and legislator.

In regarding man as susceptible of improvement, one of the first objects that strike our attention, and his chief distinction from the inferior animals, is the power of communicating and recording his thoughts, and increasing and correcting his knowledge by communication. Few things, proceeds our author, in the philosophy of human nature, merit more attention, than the means of imparting our thoughts to one another, by audible and visible signs. Our common perceptions, our most useful and our profoundest reflections, the finest emotions of the heart, and the most excursive flights of the imagination, and what is still more difficult, the most abstracted conceptions of the intellect, may, by this admirable contrivance, be made obvious to the senses of sight and hearing. In this, the infinite address of human reason is visible. The signs employed for the communication of thought may be divided into two classes; the natural, and the artificial or conventional. The natural signs are those looks, gestures, and tones of voice, which, without the assistance of words, taking hold merely of the sympathies of nature, call up in the minds of others the ideas, the emotions, and the desires which occupy our own. The artificial or conventional signs, are either vocal sounds or visible characters, and constitute language either spoken or written.

On the subject of language, two things especially merit the attention of the philosopher; in the first place, the diversity of languages existing in the world, and the similarity of structure which pervades all languages. Diversity of languages, he represents as the natural consequence of its original imperfection, and of the infinite migrations of mankind while society yet existed in its simplest state. He maintains, therefore, that the great variety of languages found among men, is an effect produced in the natural course of things, by the exercise of those powers of speech with which man is endowed by his creator, under the various circumstances in which he is placed; and that there is no necessity, in order to explain the phenomenon, to refer it to an immediate intervention of the power of the supreme being, miraculously confounding the languages of mankind at the tower of Babel. He embraces the opinion of those divines, who do not admit, that the confusion which took place at the tower of Babel, was a confusion of languages, but of sentiments, projects, designs, as the Hebrew word may be translated, and is more frequently translated in the Bible, than into the words tongue, or speech, which are the expressions used, in this case, in our version. And in favour of this interpretation of the scriptures, we beg leave to remark, that we cannot conceive how a confusion of languages could have been a cause adequate to produce the separation and dispersion of the projectors of the tower of Babel, since, notwithstanding this event, they might still have carried on, in conjunction, their great design; as we know that workmen of various languages, and nations, and tongues, can, without any difficulty, co-operate in the erection of any building however magnificent; whereas, a confusion of sentiments and opinions, leading to contentions and discord, would very naturally induce them to abandon their undertaking.

The next class of signs consists of those which represent, by visible characters, the sounds of which language is composed. At first, these would consist of such imperfect pictures or representations of visible objects, as a rude unpolished age would be capable of depicting. Moral and intellectual ideas could not be conveyed by this device. Yet, by means of certain analogies, which are supposed to subsist between sensible objects and correspondent emotions, intellectual conceptions, and moral feelings of the soul, on which figurative language is founded, the field of picturesque writing is greatly enlarged. Thus, an eagle has been made an emblem of victory, courage, elevation of mind; a lion, of strength, magnanimity, imperial rank; a dove, of mildness and innocence; a serpent, like those encompassing the wand of Mercury, of cunning, genius, eloquence; a circle, of endless duration; and a globe, of the whole material universe. Medals and allegorical pictures furnish innumerable examples of this analogical imagery; and the poets abound with a drapery which shows to what extent this species of writing might be carried. Before writing was known to the barbarous nations of Scythia, when one of their princes sent to Darius a pair of wings, a mouse, and an arrow, if he had been able to transmit a picture of objects, it would have equally served to convey to a proud king this formidable defiance; "that, unless he could fly in the air like a bird, or hide himself in the earth like a mouse, the Persian arrows would overtake him."

Painting, however, proving to be a cumbrous, unwieldly, and ambiguous mean of recording the growing annals of nations, and though continually increasing improvements of science and the arts, in order to render it a more practicable vehicle of knowledge, would be found susceptible of considerable abbreviations; the head of the eagle might be made to stand for the entire bird; the beak be used for the head; even the outline of these figures, and, finally a very small

portion of the outline, come to represent the whole. In the progress of abbreviation and improvement, it is not improbable that some minute curvature or complex inflexion, containing ever so remote a resemblance of some principal and characteristic part of the original figure, and ultimately no resemblance at all, might stand for the object itself. This point, in the progression, appears to offer a natural introduction to those verbal or idiomatic characters, an example of which still exists in the written language of China and some of the neighbouring nations, which stand, not so much for words, as for the objects or ideas expressed by those words. Thus written language is represented by our author, as advancing through the several stages of improvement, until it attained its ultimate perfection in the invention and use of alphabetical characters. These characters are only the analysis of the sounds used in oral discourse into their most simple elements, and of the modifications which those sounds receive by the approximations or contacts of the different parts of the organs of speech, expressed by visible symbols. After having considered man as a species, and taken a view of the properties which distinguish him from other species of animals, he proceeds to consider him in his individual capacity, and to explain the principles which enter into the composition of his nature, with reference chiefly to its moral destinations. In contemplating the nature of man, what first demands the attention of the philosopher, is its being a compound of body and spirit.

The question whether, as was held by the ancient Platonists and Pythagoreans, the rational and sensitive powers in man be seated in two totally distinct principles; the one the soul, the principle of vitality; the other the spirit, the principle of reason; or inhere in one simple essence, the soul, as maintained by most modern writers, he thinks of no importance, except to gratify a barren curiosity. He enters, how-

ever, at large into the merits of another question of higher moment, because it draws after it more important consequences; whether mind be essentially, or, in its primary principles, different from matter; and whether sensation and thought may not be the result of a certain organization of the body.

He infers the spiritual and immaterial nature of the soul, from the diversity, or rather opposition of its properties to those of the body, and concludes the chapter, by stating to his pupils, in brief but lucid terms, the ideal systems of Aristotle as revived by Locke, of Berkeley and Hume, and, finally, that by which they have all been supplanted, the system of Reid and the Scottish metaphysicians.

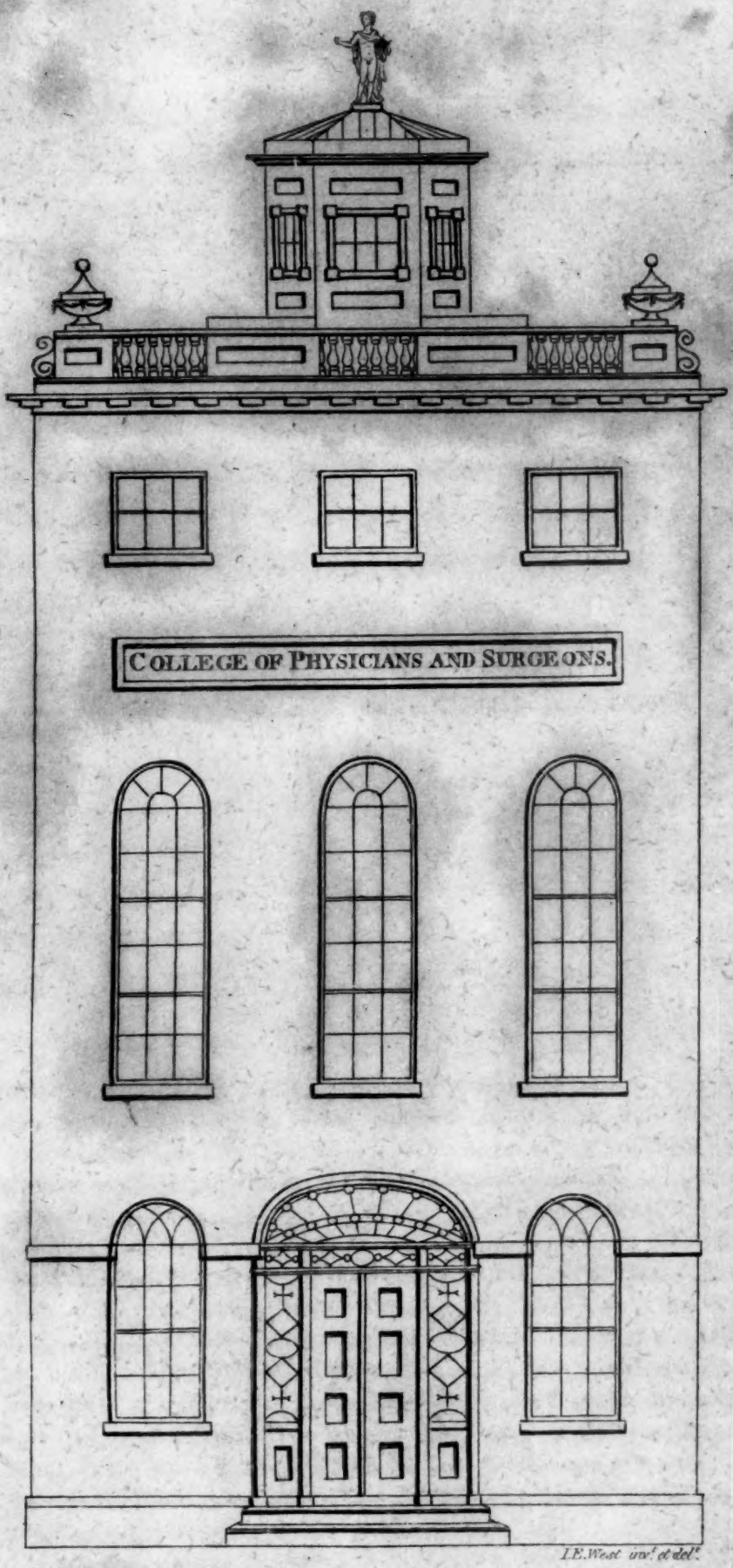
(*To be concluded in our next.*)

ART. II. *A* GUIDE *to* YOUNG SHEPHERDS; *or Facts and Observations on the Character and Value of* MERINO SHEEP: *with rules and precepts for their management, and the treatment of their Diseases, as well as of Sheep in general. Collected from the latest and best writers on these subjects, and confirmed by the experience of the Author and his friends. By* SAMUEL BARD, M. D. New-York, Collins and Co. 12mo. pp. 112. 1811.

A Complete Treatise on MERINOS, *and other Sheep, with plates. Recently published at Paris by order of the government: compiled by Mr.* TESSIER, *Inspector of the Rambouillet establishment, and others, in France. Translated from the French, and dedicated to the Agricultural Societies of the United States.* New-York, Economical School. 3vo. pp. 174. 1811.

IT is not intended here to enter into an examination of the particular merits of the above works, or to offer any abstract

of their contents. We introduce their titles for the purpose of calling all who may be concerned in the subject to which they relate, to give a close attention to the matters discussed in the volumes themselves. They are the result of extensive experience and observation; and will be found to be rich in important facts, which will be looked for in vain in any other publication, and to contain many details peculiarly interesting and instructive to the agriculturalists of the United States. On the *diseases* of sheep, which heretofore have not claimed that notice their importance demands, the pages of Doctor Bard and of M. Tessier, will be referred to again and again, and always with increased practical advantage.



College of Physicians and Surgeons of the University of the

STATE OF NEW-YORK.

UNIV.

DOMESTIC INTELLIGENCE.

HISTORICAL SKETCH

Of the ORIGIN, PROGRESS, *and* PRESENT STATE *of the* COLLEGE *of* PHYSICIANS *and* SURGEONS *of the* UNIVERSITY, NEW-YORK.

(With a View of the College.)

THE first attempt towards the formation of a medical school in the state of New-York was made in the year 1767, during the administration of His Excellency Sir HENRY MOORE and Lieutenant Governor CADWALLADER COLDEN.* Previous to this period, however, instruction had been afforded to the youth engaged in the study of medicine in New-York, and the first† essay in the United States, for the purpose of imparting anatomical knowledge, was made by Doctors JOHN BARD‡ and PETER MIDDLETON,§ two of the

* The name of Cadwallader Colden is memorable in the provincial annals of this country; and, not the least so, from the many charters of incorporation granted during his time for the establishment of literary and benevolent institutions. Himself an ardent and successful cultivator of science, he seems to have lost no opportunity for promoting its interests in the colonies. See Life of Colden, in American Medical and Philosophical Register, vol. i. p. 297—306.

† Hosack's Sketch of the Origin and Progress of the Medical Schools of New-York and Philadelphia, in Amer. Med. and Phil. Reg. vol. ii. p. 228.

‡ Dr. John Bard was born in Burlington, in New-Jersey, February, 1716, and died at his residence, Hyde Park, near Poughkeepsie, in 1799. He practised his profession in the city of New-York with great honour, and the most distinguished success, for more than fifty years, and was the author of an interesting account of the malignant pleurisy, which prevailed at Huntington, Long-Island, in the year 1749, besides some other papers. For further particulars, see a Sketch of his Life and Character, in the Amer. Med. and Phil. Reg. vol. i. p. 61—67.

§ Dr. Middleton was one of the very few medical men of this country, who, at that early day, were distinguished equally for various and profound learning, and

most distinguished practitioners of this city. In the following year, 1768, the Medical School was organized, under the direction and government of the College of the province, then called King's College, and a body of professors appointed to teach the several branches of medical science.

The learning and abilities united in the Medical School of that day, were, in the highest degree, honourable to the institution with which they were connected. Dr. SAMUEL CLOSSY* was chosen the Professor of *Anatomy*; Dr. JOHN JONES,† Professor of *Surgery;* Dr. PETER MIDDLETON, Professor of *Physiology and Pathology;* Dr. JAMES SMITH,‡ Professor of *Chemistry and Materia Medica;* Dr. JOHN V. B. TENNENT, Professor of *Midwifery;* and Dr.

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great professional talents. His *Medical Discourse*, or Historical Inquiry into the ancient and present state of Medicine, the substance of which was delivered at opening the Medical School of New-York, published in 1769, is an honourable specimen of his talents and attainments. He also wrote a letter on the Croup, addressed to Dr. Richard Bayley, a copy of which may be seen in the Medical Repository, vol. xiv.

* Dr. Samuel Clossy had, previous to his arrival in America, from Ireland, where he was born, attained a high degree of eminence in the medical profession, both as a practitioner, and as the author of an interesting volume on Morbid Anatomy, entitled, "Observations on some of the Diseases of the Human Body; chiefly taken from the Dissections of Morbid Bodies," published in London. 8vo, 1763. He was also a short time before chosen to the anatomical chair, the professor of natural philosophy in King's College. See the Life of Rev. Dr. Cooper, second President of King's College, in the Amer. Med. and Phil. Reg. vol. iii. p. 298—301.

† Dr. Jones was a native of the state of New-York, and born at Jamaica, Long Island, in 1729. He commenced the study of medicine in Philadelphia, and completed his education in Europe, where he attended the lectures of Hunter, M'Kenzie, and Pott, of London, and M. Petit and M. Le Dran, of Paris. He was deservedly considered an able teacher, and extended his reputation by the publication of a volume, entitled, "*Plain Remarks on Wounds and Fractures*," which appeared in 1775. He died in April, 1790, after a most useful and honourable life devoted to the advancement of his profession. See an Account of the Life of John Jones, M. D. in the Amer. Med. and Phil. Reg. vol. iii. p. 325—339.

‡ The brother of William Smith, Esq. the historian of New-York. He died in the city of New-York, in 1812.

Samuel Bard,* Professor of the *Theory and Practice of Physic.* Lectures on these several branches of medicine were regularly delivered by the above-mentioned gentlemen, and the Degree of Doctor of Medicine conferred by the College.†

About the same time, in consequence of a public address delivered by Dr. Samuel Bard, at the medical graduation, in 1769, a very important addition was made to the means of medical education then afforded by the establishment of the New-York Hospital. The necessity and usefulness of a public infirmary, to use the language of Dr. Middleton,‡ "were so warmly and pathetically set forth in that memorable discourse," that, upon the same day on which it was delivered, a subscription was commenced by His Excellency Sir Henry Moore, and the sum of eight hundred pounds sterling collected for that establishment. The corporation of the city, animated by the same public spirit and active benevolence, in a short time added three thousand pounds sterling to the first subscription, when the united amount was employed in laying the foundation of that valuable institution, now the pride of our city, and alike devoted to the purposes of humanity and the promotion of medical science.§

The Medical School of New-York, thus provided with learned and able professors, promised to be productive of the greatest advantages; but the revolutionary war occasioned a suspension of their labours; the professors and students

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* The present President of the College of Physicians and Surgeons, New-York.

† In his valuable Retrospect of the Eighteenth Century, Dr. Miller asserts, that no medical degrees had been conferred by the College previous to the revolutionary war. Notwithstanding the general accuracy of Dr. Miller, he, in this instance, is mistaken. A copy of an Inaugural Dissertation on the anthelmintic quality of the *Phaseolus Zuratensis Siliqua hirsuta*, or Cow-Itch, for the Medical Doctorate in King's College, by Samuel Kissam, M. B. and published in May, 1771, may be seen in the library of the New-York Historical Society.

‡ Medical Discourse, p. 60. Hosack's Sketch.

were scattered, the college converted by the enemy into a military hospital, and the immediate design of the whole establishment frustrated.

After the peace of 1783, the former medical professors being separated by accident or death, never as a body were reinstated in their former situation in the College. In the following year, exertions were made for the revival of the Medical School of this city, and professorships created for that purpose. The individuals, however, who were appointed, either declined giving instruction altogether, or gave but imperfect courses, and the establishment consequently fell to the ground.

King's College at the close of the war underwent considerable alterations in its government, and received the name of Columbia College. WILLIAM SAMUEL JOHNSON, Esq. L L. D. son of the first president, and a gentleman in every respect qualified to the station, was called to preside over it. The reputation of the College, as a school of arts, soon became deservedly great, and the Board of Trustees, under whose more immediate care it was placed, laudably attempted, in the year 1792, again to connect a medical establishment with it; thus forming two faculties, a faculty of arts and another of physic. At the head of the latter presided, for some time, SAMUEL BARD, M. D. as Dean. Among the professors who were appointed to deliver lectures on the different branches of medicine were several gentlemen of acknowledged talents and professional merit, and it was ardently hoped that the interests of science in general would be greatly promoted by their labours, and the medical character of the state soon acquire a high and extensive reputation.

The exertions of the Trustees of Columbia College in thus annexing a Medical School to that institution, were certainly in the highest degree deserving commendation; and

though the beneficial effects resulting from them have been but small and limited, and fallen far short of what was at first anticipated, yet it would be wanting in liberality to deny, that some service had been rendered the profession of medicine by its establishment. It appears from the records of Columbia College, that since 1792, the time when the medical faculty of that school was organized, to the year 1811, *thirty-four* students have completed their courses of study, and received the medical honours of that institution!

For reasons too obvious to need mention in this place, the Honourable the Regents of the University of New-York, in whom resides the exclusive power of instituting seminaries of learning, and of superintending the interests of literature and science throughout the state, determined in 1807 upon the establishment of a COLLEGE OF PHYSICIANS AND SURGEONS. The power to exercise this authority had been vested in them as early as 1791, by an act passed for that special purpose.* That so many years elapsed before that venerable body thought fit to form an institution to be exclusively devoted to the cultivation of medical science, appears to have risen from the existence of the Medical School attached to Columbia College, which it was hoped would have superseded the necessity of another medical establishment. Accordingly a charter for the purpose of establishing a College of Physicians and Surgeons in the city of New-York was granted, bearing date the 12th of March, 1807.

The establishment of the College of Physicians and Surgeons upon a broad foundation, under the patronage of the Regents of the University, and its sanction by the legislature, were circumstances viewed with the greatest satisfac-

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* The title of the act is as follows: "An Act to enable the Regents of the University to establish a College of Physicians and Surgeons within this state," passed the 24th March, 1791.

tion, and afforded just cause of congratulation to the friends of science throughout the state. That the high expectations which were entertained of the benefits that would flow to the community from its establishment were well founded, the history of the College during the few years it has been in operation presents the most conclusive evidence.

Agreeably to the provision made by the Charter, the College was organized on the first Tuesday, the 5th, of May, 1807; when the following officers were elected:

NICHOLAS ROMAYNE, M. D. *President.*
SAMUEL L. MITCHILL, M. D. *Vice President.*
ARCHIBALD BRUCE, M. D. *Registrar.*
ABRAHAM BROWER, Physician, *Treasurer.*

CENSORS.

EDWARD MILLER, M. D. DAVID HOSACK, M. D. ALEXANDER SHELDON, WILLIAM LIVINGSTON, WILLIAM JAMES M'NEVEN, M. D. HENRY VAN SOLINGEN, M. D. WILLIAM WHEELER, J. D. GILLESPIE, J. E. R. BIRCH, JAMES G. GRAHAM, BENJAMIN DE WITT, M. D. FELIX PASCALIS, and ALEXANDER HOSACK, M. D.

The following Professorships and Professors were constituted and appointed by the Regents of the University:

Practice of Physic, EDWARD MILLER, M. D.
Chemistry, SAMUEL L. MITCHILL, M. D.
Botany and Materia Medica, DAVID HOSACK, M. D.
Institutes of Medicine, BENJAMIN DE WITT, M. D.

For the purpose of forming a complete system of instruction in the several branches of Medicine, the College deemed it necessary to exercise the power, delegated to them by charter, of appointing lecturers on those departments of science which were unprovided with professors. They accordingly appointed Dr. NICHOLAS ROMAYNE and Dr. JOHN

Augustine Smith, Lecturers on *Anatomy*, Dr. Benjamin De Witt, Lecturer on *Chemistry*,* Dr. David Hosack, Lecturer on *Surgery* and *Midwifery*, and Dr. Edward Miller, Lecturer on *Clinical Medicine*.

In order to conduct with greater facility the various minute details of business in the College, a *Senatus Academicus* was organized, consisting of the President, Vice President, Professors, Lecturers, Registrar, and Treasurer.

The College, thus provided with Professors and Lecturers on all the branches of medical science, procured a commodious building situated in Robinson-street, a central part of the city, where apartments were fitted up for the accommodation both of the teachers and students. Some progress was made in the formation of an Anatomical Museum, a Chemical Laboratory, and a Cabinet of Minerals. The Botanic Garden founded by Dr. Hosack, the Professor of Botany and Materia Medica, was also eminently calculated for the purpose of instruction in those departments of knowledge

On the 7th of November following, the business of the College commenced, and full and satisfactory courses of instruction were delivered on all the branches of medicine, by the united labours of the professors appointed by the Regents of the University, and the Lecturers chosen by the College. In addition to this, it is proper to mention, that the Governors of the New-York Hospital made such arrangements with the Professor of the Practice of Physic as enabled him to deliver a course of Clinical Lectures in that extensive charity; and that Dr. M'Neven, a member of the College, and then one of the Physicians of the New-York Alms House, gave to the students of medicine a course of

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* In the absence of Dr. Mitchill, the professor of this branch, who had to attend during that session at the general government as Senator of the United States.

Clinical Instruction on the cases that occurred in that institution. The industry with which the teachers of the New School devoted themselves to their respective collegiate duties was unremitted; and the ability and success with which they fulfilled the important stations assigned them was such, that the legislature, at their next session, in November 1808, made the liberal appropriation of twenty thousand dollars for the benefit of the College. The whole number of students who resorted to the institution the first year was fifty-three.

The College being instituted on an extensive plan, and under the immediate superintendance of the Regents of the University and the patronage of the state, the liberal grant of the legislature enabled them to purchase a building, situated in Pearl-street, better accommodated for their purpose, and to make such additions to the institution as might increase the advantages of instruction in the various branches of Medical Science. During the recess of the College, Dr. SMITH, formerly Lecturer, was appointed Professor of *Anatomy* and *Surgery*, Dr. MITCHILL, Professor of *Natural History*, Dr. DE WITT, Professor of *Chemistry*, Dr. M'NEVEN, Professor of *Obstetricks* and the *Diseases of Women and Children*, and the President, Professor of the *Institutes of Medicine*.

The second session of the College commenced in November, 1808, and continued four months. The Lectures were attended by *seventy-two* students, a greater number than had ever before resorted to a similar institution for medical instruction in this city.

The principal improvements made in the College the ensuing year, related to the departments of Anatomy and Natural History. The Anatomical Museum was considerably enlarged by many valuable preparations, and the Cabinet of Natural History and Mineralogy received many additions illus-

trative of the geological constitution and mineralogical resources of the United States. Dr. A. BRUCE was elected the Professor of *Materia Medica* and *Mineralogy*. Lectures were given on all the branches of medical science by the several professors, and clinical practice at the Hospital by Dr. MILLER. The third session of the College was attended by seventy-three students from different parts of New-York, and from other states in the union.

The success of the College of Physicians and Surgeons during the first three years of their establishment, exceeded the most sanguine expectations, and gave the fullest evidence of the numerous advantages which the city of New-York possesses for a great medical school. Certain misunderstandings, however, having taken place between the president and the professors, the rapid progress of the College in its importance and usefulness received a temporary check, and its brilliant prospects were for a season overcast. From a want of unanimity among the professors, lectures on only some of the branches of medicine were delivered, and the pupils consequently were reduced to about one third the former number.

The Regents of the University, upon receiving information of the dissensions which had arisen in the College, and which it was feared would materially retard the advancement of the institution, with the same laudable zeal for the promotion of medical science with which they had originally organized the establishment, immediately adopted measures for ascertaining the cause of the mischief, and for the removal of every impediment to its prosperity. A committee, consisting of the honourable Chief Justice KENT, Judge SPENCER, and Judge SMITH, was appointed to inquire into the nature of the misunderstanding, and to report upon the same. The report was as follows:

At a meeting of the Regents of the University, held pursuant to adjournment, in the Senate Chamber, on the first of April, 1811:

The committee to whom was referred several papers relative to the state of the College of Physicians and Surgeons in the city of New-York, report, that unfortunate misunderstandings have taken place between several professors of that institution, which have already materially impeded its operations, and unless something effectual be done by the regents, it will become degraded in the estimation of the public, and its usefulness will be inevitably destroyed.

The committee have forborne to trace and bring to light the conduct of individuals, because in their opinion it would be both useless and invidious.

Propositions have been made to the committee to re-model the institution, with a view of rendering its operation more simple, and of introducing into it several of the Professors of the Medical School in Columbia College, and other eminent and distinguished individuals: this proposition has been viewed by the committee in the most favourable light, as it may extinguish the feuds existing among the present Professors of the College of Physicians and Surgeons, and as it will, in all probability, be the means of uniting the two schools.

The latter appears an object of the first importance, in as much as it will assemble, in one institution, a splendid collection of medical and surgical talents, and as it cannot fail to merit and receive the patronage and encouragement of the legislature.

It is unnecessary for the committee to attempt to display the important advantages to the state which a well organized Medical School in the city of New-York must afford; its hospital, and the subjects furnished by the state prison, without the violation of law, present a field for the acquisition of medical and surgical knowledge unrivalled in the United States, and it is only requisite to establish an institution, under the fostering care of the legislature, in which shall be united the best talents, and to secure these advantages to the state.

Under these impressions, the committee beg leave to report an alteration of the charter of the College of Physicians and Surgeons, and to propose a new list of officers and professors, which alteration is as follows, to wit:

By the Regents of the University of the State of New-York.

WHEREAS we have reserved to ourselves the right to alter and modify our ordinances for establishing a College of Physicians and Surgeons in New-York; therefore,

Be it ordained, That all the corporate rights, privileges, powers, and immunities granted by us to the said College of Physicians and Surgeons, to the Trustees or Members thereof, and to the Senatus Academicus and Censors thereof, shall hereafter be exclusively vested in, and exercised by the Trustees of the said College of Physicians and Surgeons, to be appointed from time to time by us or our successors. And the said Trustees shall do and perform all matters and things which the said College of Physicians and Surgeons, the Trustees or Members thereof, and the Senatus Academicus and Censors thereof, are authorized and required to do and perform.

And be it further ordained, That the President, Vice President, Professors, and Treasurer of the said College, for the time being, and such other persons as we, or our successors, may hereafter appoint, shall be the Trustees of the said College, provided the whole number of the said trustees shall not, at any time, be more than twenty-five.

And be it further ordained, That the President or Vice President, or any three of the Trustees, shall have power, at any time, to call a meeting of the said Trustees, by giving at least three days previous notice of the time and place of holding said meeting. And five of the said Trustees (of which the President, or in his absence, the Vice President, shall be one) shall be a quorum for the transaction of business.

And be it further ordained, That the Trustees and Members of the said College, who are not constituted Trustees by this supplementary charter, shall be hereafter fellows or members thereof, and

that the Trustees shall have power to elect fellows or members of the said college, who shall at all times have the privilege of attending all the public lectures and other courses of instruction, delivered by the Professors in the said College; and who shall also have the privilege of visiting and inspecting the Anatomical Museum, the Botanic Garden, the Cabinets of Mineralogy and Natural History, and the Library of the said College, under such regulations as the Trustees shall prescribe for that purpose.

And be it further ordained, That reserving to ourselves and our successors, Regents of the University, the power of making such other grants or ordinances as may be necessary or useful for the said College, we finally order, that this ordinance shall form part of the charter of the said College of Physicians and Surgeons in the city of New-York. And we do hereby revoke and annul such parts of our previous grants and ordinances as are contrary to, or inconsistent with, the present ordinance."

The above extracts from the proceeding of the Regents of the University, supersede the necessity of any remarks on the subject to which they relate. The changes proposed to be made both in the officers and in the government of the College, were such as manifested equally a regard to the rights of other establishments, and the solicitude of the Regents for the welfare of that which they had founded and cherished.

Though their laudable designs were for a while, in a partial degree, protracted, on account of the conduct of some gentlemen, in relation to the professorships with which they were honoured, yet such arrangements were adopted by the Board of Trustees, now created according to the new Charter, that the various courses of instruction delivered by the professors formed a complete system of medical education.

Upon the reorganization of the College, the following gentlemen accepted the stations to which they were elected on

the 1st of April, 1811, by the unanimous resolve of the Honourable the Regents of the University:

SAMUEL BARD, M. D. *President.*

BENJAMIN DE WITT, M. D. *Vice President.*

JOHN AUGUSTINE SMITH, *Professor of Anatomy, Surgery, and Physiology.*

DAVID HOSACK, M. D. *Professor of the Theory and Practice of Physic and Clinical Medicine.*

WILLIAM JAMES M'NEVEN, M. D. *Professor of Chemistry.*

SAMUEL L. MITCHELL, M. D. *Professor of Natural History.*

JOHN D. JAQUES, *Treasurer.*

JOHN W. FRANCIS, *Registrar.*

During the same session, other measures particularly calculated to advance the interests of the New School of Medicine were adopted. The Elgin Botanic Garden, founded by Dr. HOSACK, in the vicinity of this city, and which had been purchased by the legislature for the purpose of promoting medical science, was placed by them at the disposal of the Regents. That honourable board committed to the Trustees of the College of Physicians and Surgeons, the care of that extensive Botanical establishment, to be devoted to the use of the College, for the laudable purpose contemplated by the legislature. By this arrangement, the Botanic Garden became an important addition to the State Medical School, and affords more ample means of instruction in a highly interesting branch of education, than are enjoyed in any other Medical Seminary in the United States.* The le-

* The Elgin Botanic Garden is situated about three miles from the city, on the middle road between Bloomingdale and Kingsbridge. The ground, consisting of twenty acres, was purchased from the corporation of New-York, in 1801, by Dr. David Hosack, the founder of the establishment. The view, from the most elevated part, is variegated and extensive, and the soil itself of that di-

gislature also, during this session, made a further grant of five hundred dollars per annum for the benefit of the College.

The College having thus undergone such material alterations, and received such liberal aid from its founders and patrons, a new list of officers being chosen, and its internal government, formerly placed with the Censors and Senatus Academicus, being now vested in a board of Trustees composed of the President, Vice President, Professors, Treasurer, and other members of the medical profession, elected to the station, directed its attention with increased zeal to the immediate object of its establishment.

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versified nature, as to be particularly adapted to the cultivation of a great variety of vegetable productions. Immediately after the purchase, the proprietor had the grounds cleared and arranged in a manner the best adapted to the different kinds of vegetable, and planted agreeably to the most approved stile of ornamental gardening. A conservatory for the more hardy green-house plants was also built. As a primary object in this establishment was to collect and cultivate the native plants of this country, especially such as possess medicinal properties, there were in cultivation at the commencement of 1805, near fifteen hundred species of American plants, beside a considerable number of rare and valuable exotics. In 1806, important additions were made to the collection of plants from various parts of Europe, and from the East and West Indies. A second building for their preservation was erected, and the foundation for a third laid, which was completed in the following year. In the autumn of 1806 a *Catalogue* of the plants which had been collected, and which amounted to nearly two thousand, was published. Since that time, the Botanic Garden has been greatly improved. The buildings, which are erected on the most recent plan adopted in institutions of this kind, consist of three large and well constructed houses, exhibiting a front of one hundred and eighty feet. The greater part of the ground is brought in a state of high cultivation, and divided into various compartments, calculated for the instruction of the student of Botany and Medicine. The establishment is surrounded by a belt of forest trees and shrubs, and these again are enclosed by a stone wall two and a half feet in thickness, and seven feet in height. Upon the purchase of the establishment by the legislature, in 1810, the founder of the garden published a second edition, greatly enlaged, of the Catalogue of Plants cultivated there, arranged in alphabetical order, and embracing the generic and specific names of Linnæus, the synonyms of various authors, the popular appellations by which they are known, &c. For a more minute account, see a "*Statement of Facts relative to the establishment and progress of the Elgin Botanic Garden.*" *Hortus Elginensis, or a Catalogue of the Plants*, &c. second edition, published in 1811.

The services rendered the College, by the late measures adopted by the Regents and Legislature, soon became apparent. On the 15th of May, 1811, the first Medical Commencement in the institution was held, and the degree of Doctor in Medicine granted to eight gentlemen, who had previously undergone the necessary examinations prescribed by its laws, and publicly defended their respective inaugural dissertations. This was a greater number of degrees in medicine than was ever before granted at one time in this city, since the establishment of a Medical School in New-York. The honours of the College were publicly conferred by the President, Dr. SAMUEL BARD, in the presence of the Chanceller and Regents of the University, the Trustees and other officers of the institution.

Important additions were made this year to the Chemical department of the College, the laboratory was rebuilt, and the chemical lecture-room materially improved. The fifth session of the College commenced on the first Monday of November, 1811. The business of the College was opened by an elegant and appropriate address from the president,* and the several professors entered with becoming spirit upon the duties belonging to their respective departments. The course of *Anatomy, Surgery,* and *Physiology* was delivered by Professor JOHN AUGUSTINE SMITH; *Chemistry,* both in its relation to medicine and the arts, was taught by Professer M'NEVEN; and the course of instruction on the *Theory* and *Practice* of *Physic* and *Clinical Medicine,* and on *Midwifery* and the *Diseases* of *Women* and *Children,* by Professor HOSACK. To this last mentioned branch, Professor HOSACK had, a short time previous, been appointed Lecturer by the Board of Trustees. The several branches of *Natu-*

* A copy of this excellent production, delivered by Dr. Bard, may be seen in the Amer. Med. and Phil. Reg. vol. ii. p. 369—382.

ral History were taught by Professor MITCHILL: the geological and mineralogical parts of the course were illustrated by the rich cabinet of fossils attached to the College, and the illustrations in *Botany* given at the State Botanic Garden. Lectures on the *Materia Medica* were delivered by the Vice President, Dr. DE WITT. The exertions of the Professors in their several branches of instruction were unremitted, and deserving the highest commendation: the result of their labours was highly advantageous and satisfactory to their pupils. On the practice of physic alone, upwards of one hundred lectures were given during the session by the professor of that branch.

At the commencement held on the first Tuesday in May following, the time appointed, twenty gentlemen received from the hands of the president the degree of Doctor in Medicine, eleven of whom had been regular students of the institution.

It is highly gratifying to observe the language in which the Regents of the University expressed themselves, when speaking of the condition of the College at this time:

"They view (says the committee to whom was referred the business of the College) with satisfaction the advancement of the College to a greater degree of prosperity than it has at any time heretofore enjoyed. The names of the students reported, as attending the several classes, are eighty-four in number, which is a flattering indication of the continued progress of this Medical School. The President and Professors appear to have made great exertions to promote its welfare and permanent success; and their zeal for the cultivation of medical science merits the approbation of the Regents.

"The chemical and anatomical professorships, as they are attended with much expense to the incumbents, deserve, in the opinion of your committee, some aid and support from the Regents; and it is proposed that the annuity of five hundred dollars, lately

granted by the legislature for the use of the college, should be appropriated for this necessary and important object."

In their annual report to the legislature, dated on the 27th of May, 1812, they also observe:

"The organization of the College of Physicians and Surgeons has been improved, and it now presents a fair prospect of speedily rising to a state of usefulness and celebrity, such as may be justly expected from the importance of the community in which it is situated, and the government under whose auspices it has been erected.

"A gentleman universally acknowledged among the first in the medical profession in America, has consented to be placed at the head of it, and professors of the best talents have been procured to deliver instruction in it."

The board of trustees of the College could not forbear to tender to their professional brethren their congratulations upon the successful establishment of the institution, and the salutary effects which resulted from its re-organization. This they did in their circular address of September, 1812, in which they briefly stated the flourishing condition of the College, and, at the same time, announced the several courses of Lectures intended to be delivered during the ensuing session.

The *sixth* session of the College commenced at the usual time, in November, 1812, and complete courses of Lectures on *Anatomy*, *Surgery*, and *Physiology*; on the *Theory* and *Practice* of *Physic* and *Clinical Medicine*; on *Obstetrics*, and the *Diseases* of *Women* and *Children*; and on *Chemistry*, were delivered by the respective professors of these branches. Arrangements having been made by the Professor of *Natural History* for delivering instruction to his class at a different season, the Lectures on *Geology*, *Mineralogy*, *Botany*, and *Zoology*, were given by Professor MITCHILL in the en-

suing spring. Sixty-one Lectures were delivered by the Professor of Natural History on these branches of education.

On the first Tuesday in May, 1813, the degree of Doctor in Medicine was conferred on five candidates, who had completed their education in the College, and to whom the Regents of the University had granted that honour.

The preceding sketch contains a concise and faithful relation of the principal circumstances connected with the origin and progress of the College of Physicians and Surgeons of New-York. It was considered unnecessary to offer a more minute detail, as the public at large would feel little interest in dwelling upon particulars of this kind; and it was deemed inexpedient to bring to light the transactions of individuals, who, instigated by disappointed ambition, or envious of the condition of the College, were not wanting in devising means to destroy its prospects, or to add to the many difficulties unavoidably connected with the organization of an institution of this nature. It has always been observed, that establishments for the promotion of science, like other associated bodies, have their intervals of languor as well as their periods of vigour and activity.

The College, having successfully encountered the evils which it had originally to contend with, it is believed, now stands on a foundation too firm to be shaken. Its re-organization in the year 1811, by the honourable the Regents of the University, has proved as salutary in its effects as the most sanguine could have promised. Though three years have not elapsed since that event, yet, so successfully have the labours of the College been directed, that those who have completed their education under its care, and have received its medical degrees, nearly equal, in point of number, all who before that time had received the same honour in this state. The Inaugural Dissertations published by the graduates of the University are also, for the most

part, highly honourable to the talents and acquirements of their respective authors, and reflect credit on the institution whence they received their education.

The present flourishing condition of the state Medical School cannot but be viewed with peculiar satisfaction by every friend of science and humanity; and the Board of Trustees, moreover, deeming themselves fully warranted on account of the munificent patronage of the legislature, and the laudable zeal of the Regents of the University, to augment the means of medical education afforded by the College, have recently adopted measures for that purpose. In pursuance of this object, they have appropriated a considerable part of their funds to the purchase of ground as a permanent situation for the College, and are engaged in completing an elegant and commodious edifice, in all respects commensurate with the increasing character and importance of the institution. The Board of Trustees have made such arrangements as will secure the completion of the work in due season, in order that the several professors may enter upon their respective duties at the usual time, the first Monday in November. Additional provision has lately been made to the anatomical and chemical departments of the College. It may also be proper here to state, that, at the close of the last session of the College, the Trustees appointed JOHN W. FRANCIS, M. D. Lecturer on the *Institutes of Medicine* and the *Materia Medica.*

When the advantages which New-York possesses for a great medical establishment are considered; advantages, arising from its natural situation; its extensive population, now nearly equal to most of the capitals of Europe; its large and well endowed hospital and other public charities; its botanic garden; its well organized Medical College, and the extensive system of education which it embraces; and when it is further considered, that these advantages are in-

creased by the munificent patronage of the state, it is not too much to say, that, in the means of instruction, the College of Physicians and Surgeons is second to no similar institution in the United States.

OFFICERS, &c. *of the* COLLEGE *of* PHYSICIANS *and* SURGEONS *of the University of the State of New-York*, 1813.

SAMUEL BARD, M. D. *President.*

BENJAMIN DE WITT, M. D. *Vice President.*

JOHN AUGUSTINE SMITH, M. D. *Professor of Anatomy, Surgery, and Physiology.*

DAVID HOSACK, M. D. *Professor of the Theory and Practice of Physic and Clinical Medicine, and Lecturer on Midwifery and the Diseases of Women and Children.*

WILLIAM JAMES M'NEVEN, M. D. *Professor of Chemistry.*

SAMUEL L. MITCHILL, M. D. *Professor of Natural History.*

JOHN W. FRANCIS, M. D. *Lecturer on the Institutes of Medicine and the Materia Medica.*

TRUSTEES.

SAMUEL BARD,	JOHN D. JAQUES,
BENJAMIN DE WITT,	THOMAS ADDIS EMMET,
JOHN AUGUSTINE SMITH,	JOSEPH BLOODGOOD,
DAVID HOSACK,	ANDREW HUNT,
WILLIAM JAMES M'NEVEN,	ANDREW MORTON,
SAMUEL L. MITCHILL,	LYMAN SPALDING,

HUGH WILLIAMSON.

JOHN D. JAQUES, *Treasurer.*
JOHN W. FRANCIS, *Registrar.*

Syllabus *of the* Several Courses *of* Lectures *delivered in the* College *of* Physicians *and* Surgeons, *New-York.*

ANATOMY, SURGERY, AND PHYSIOLOGY.

The Lectures on *Anatomy, Surgery,* and *Physiology,* are embraced in one course, and are delivered by Professor John Augustine Smith, M. D. The objects of Dr. Smith's labours are, consequently, threefold; to illustrate the anatomy of the human body, to present such physiological views of each part as necessarily arise from considering its peculiar nature and functions, and thence to make a pointed application of this knowledge to the important duties of the surgeon. This latter object is always regarded by the professor as one of primary consideration, and he, therefore, enters upon the duties belonging to his department, by pointing out the value and necessity of a thorough knowledge of the principles of surgery, the means by which that science is to be acquired, and the mode in which it is to be practised, both as it regards the surgeon himself, his fellow practitioners, and the community at large. The professor next takes up the consideration of *life,* its essential principle, as it has been called, and the phenomena by which it is characterized, particularly in the different classes of animals and vegetables. The laws which govern animate matter, and the various opinions which have been entertained relative to it, are stated and examined. Upon this subject, every argument is produced which tends to prove the existence of a distinct vital principle. To this naturally succeeds observations upon *death,* an examination into the character of inorganic matter, or matter deprived of animation, the vari-

ous causes by which death is produced, and the effects resulting therefrom.

As the continuance of existence appears to depend more immediately upon the circulation of the blood, than upon any other process of the animal economy, Professor SMITH next enters upon a consideration of the manner in which this fluid is formed. He states the several opinions which have been maintained concerning it, and details its sensible and chemical qualities as afforded by the latest experiments. The importance of this fluid is still further evinced, when the professor points out its relation to *secretion*, and examines the various substances formed from it.

Doctor SMITH next enters upon the consideration of *bone*, as one of the substances produced from the blood: its formation and growth, its structure and peculiar character, are related: the individual bones are then described, with their connections and particular uses. After the bones, the *muscles* are next demonstrated: their peculiar organization is unfolded, and the nature of muscular motion explained from the phenomena which it exhibits. What is usually denominated the vascular system, is then treated of: the great importance of a thorough knowledge of the arteries being universally admitted, the professor minutely illustrates the structure and course of the blood vessels. The process of *digestion* and *assimilation* (including the anatomy of the *chylopoietic* and other *viscera*) is next taken up, and this part of anatomical instruction concluded with a view of the *lymphatic* and *absorbent* systems.

Professor SMITH next commences with a view of the *organs of sense;* having demonstrated the structure of the brain according to the manner adopted by the English, he proceeds to illustrate the anatomy of this organ agreeably to the improved method of the French. In his examination of the nervous system, Doctor SMITH endeavours, as far as

time will permit, to make his hearers acquainted with the most important facts which have been brought to light from the researches of philosophers on this subject.

In explaining the structure and functions of every part of the body, to the advantages afforded by oral instruction are added those which may be derived from a large collection of anatomical preparations and from dissections. The professor also frequently avails himself of the aid afforded by comparative anatomy, in order to illustrate particular subjects, and occasionally has recourse to preserved specimens of diseased parts for the purpose of more accurately unfolding the changes effected by morbid action.

From what has been already said, it will be understood that anatomy and physiology are intimately blended; the latter being deduced from the former. In like manner, the professor, while demonstrating the structure of a part, keeps constantly in view its functions, the diseases to which it is liable, and the operations and remedies they may require.

Correct anatomical knowledge being the basis of surgery, the professor dwells with minuteness upon those parts especially in which the skill of the surgeon is most required: Thus the anatomy and structure of the part is first particularly unfolded; the nature and seat of the diseases to which it is exposed explained; ample directions given for the manner of conducting the operation required; and the principles of surgery still further exemplified by performing the operation in the presence of the class upon the dead body. The professor treats at length all those subjects which claim the attention of the naval and military surgeon.

This course of Lectures commences on the first Monday of November, and continues *daily* for four months.

THEORY AND PRACTICE OF PHYSIC AND CLINICAL MEDICINE.

The *Theory* and *Practice* of *Physic* and *Clinical Medicine*, are delivered in the same course of Lectures, by DAVID HOSACK, M. D. the Professor of those branches.

Introductory to the practical subjects which this course embraces, and for the benefit of those pupils who may be commencing, or may have recently entered upon the study of medicine, Dr. HOSACK commences by exhibiting a compendious view of the structure of the human body ; more especially directing the attention of his pupils to the various functions it performs in a state of health, including those appertaining to the mind as well as the body.

In this view, particular attention is given to those functions which physiologists have denominated the natural functions of the system. Under this head, the various excretions, both as regards their influence in health, as well as the changes they undergo by disease, receive that attention which their importance demands.

The causes of disease, whether inherent in the system, or produced by the operation of external agents, are next enumerated.

The influence of climate, soil, food, sleep, cloathing, exercise, both mental and bodily, the passions of the mind, the functions peculiar to the different sexes, the various trades and occupations of life, in as far as they are either directly or indirectly the sources of disease, are severally noticed in this part of the course : as the subject of climate embraces circumstances equally interesting to the philosopher and physician, particular attention is given to the influence which it exerts upon the bodily and intellectual powers of man. In connection with this discussion, due regard is also paid to the sensible and adventitious qualities of

the atmosphere, and their agency in the production of endemic and epidemic disorders. Dr. HOSACK next inquires how far the functions of the constitution possess in themselves the power of removing diseases, as ascribed to them by most of the ancient and by some modern physicians; and concludes the preliminary part of the course with an outline of that preparatory knowledge which it is necessary for the physician to possess when he approaches the bedside of the sick.

He next proceeds to a description of the various diseases to which the human frame is exposed, arranging the whole in such manner as he conceives best calculated to assist the student in acquiring a knowledge of the characters of each, the causes which produce them, and the means to be employed for their prevention and cure. With this view, Dr. HOSACK distributes diseases into the eight following classes:

1. *Febres*, (Fevers) embracing the various forms of
   Intermitting,
   Remitting, and
   Continued Fevers.

2. *Phlegmasiæ*, (Inflammations) containing all diseases of an inflammatory nature.

3. *Cutanei*, (diseases of the skin) in which all the cutaneous diseases are arranged agreeably to the orders adopted by Dr. Willan.

4. *Profluvia*, (discharges) including all hemorrhages, as well as the morbid discharges which take place from the excretory organs of the system.

5. *Suppressiones*, (suppressions) or those diseases which consist in a suppression or diminution of the natural evacuations.

6. *Neuroses*, (nervous diseases) embracing all those which more especially reside in the nervous system, including the various diseases of the mind as well as those of the body.

7 *Cachexiæ*, (vitiations) the diseases more peculiarly arising from a morbid condition of the fluids of the system; including those which arise from their redundance either general or partial, as the various forms of dropsy, and those disorders which proceed from a vitiated state of the circulating mass.

8. *Locales*, (local diseases) containing tumours, dislocations, wounds, ulcers, and other diseases usually denominated local.*

Having pointed out the objects and advantages of this nosological arrangement, the professor proceeds to delineate the various diseases which it comprehends.

The subject of fevers, which fall under the daily observation of every practitioner, and which derives peculiar importance from the epidemics with which the United States have been visited since the year 1791, receives especial notice in this course.

When describing the treatment of diseases, Dr. Hosack not only minutely details the remedies to be prescribed, their mode of operation, and the different stages in which they are severally indicated, but the *diet* and *regimen* of the sick, including all those circumstances which have an influence upon the character of diseases and which it is equally the duty of the physician to direct, are also embraced in this course of Lectures.

MIDWIFERY AND THE DISEASES OF WOMEN AND CHILDREN.

This course, as taught in the College of Physicians and Surgeons, not only embraces the delivery of women in childbed, but comprehends the diseases peculiar to pregnancy,

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* For a view of the details of Dr. Hosack's classification, see the Amer. Med. and Phil. Reg. vol. ii. p. 270. Its advantages will, on a future occasion, be pointed out by the author in a more extensive work on this subject.

those attendant upon parturition, those which succeed to delivery connected withthe puerperal state, and the diseases of early infancy, especially those which occur during the month. The lectures on this important branch of medical education, are also delivered (at a separate hour) by the Professor of the Theory and Practice of Physic.

Dr. Hosack commences this course with a description of the bones of the pelvis, noticing their form, situation, dimensions, connexions with each other, and the other parts of the body, including a comparative view of the dimensions and structure of the head of the fœtus ; at the same time illustrating, by an extensive collection of preparations, the various deformities of the pelvis, and their effects upon labour. He next proceeds to a description of the soft parts connected with the pelvis, pointing out their structure, relative situation, connexion, the changes which take place in consequence of pregnancy, the vessels which supply them and the nerves which are distributed upon them, necessary to be known to the accoucheur.

Having described the anatomical structure both of the external and internal organs of generation, he notices their various functions, the diseases to which they are liable, and the treatment they severally demand. The numerous diseases connected with menstruation, are particularly treated of in this part of the course.

The gravid uterus, embracing a view of the changes induced by impregnation ; the signs of conception ; the structure and growth of the ovum ; the circulation of the fœtus, and that which takes place between the mother and child, comes next under consideration. The changes produced in the system by pregnancy, the diseases attendant upon it, and their mode of treatment, including the premature expulsion of the fœtus, and the treatment of those accidents which are frequently attendant upon abortion, are then fully detailed.

In the second part of the course, the premonitory signs of labour, the changes which take place during the process of parturition, and the diseases it occasionally produces, are next enumerated.

The several stages and progress of a natural labour; the different classes of labours, the characteristic symptoms of each, and their peculiar treatment, are then minutely described and illustrated upon the machine.

The regimen, or management of women in child-bed, the diseases which are frequently attendant upon, or succeed to parturition, and the diseases of the new-born infant, constitute the third part of the course.

The pupils are then referred to the New-York Lying-In Hospital, and the Lying-In Ward of the Alms-House, where they enjoy abundant opportunities of exemplifying, at the bed-side, the principles they may have acquired.

The Lectures on the Theory and Practice of Physic are delivered *daily* throughout the session, and those on Midwifery, at a separate hour, *three* times a week.

CHEMISTRY.

The Course of Lectures on *Chemistry* is delivered by Professor WILLIAM JAMES M'NEVEN, M. D.

Chemistry may be taught either by proceeding from the consideration of simple bodies to that of the combinations which they form, or else by deducing analytically, from the compound body, the more simple elements of which it consists. The former of those methods has been generally preferred from the time that so many simple substances were developed by means of the modern improvements in this science. It is also the method followed by the professor of this college.

If compound bodies be first presented to the examination of the learner, his progress is continually interrupted by his ignorance of all their constituent principles, on which, however, their mutual action and phenomena depend. But such of them as have not been decomposed are, according to the just logic of chemistry, to be deemed elementary for the present; and, in the stage to which it is now advanced, a clear and accurate demonstration of their properties necessarily forms the basis of the science. By considering these properties first separately, and next in combination, a knowledge is acquired of the most complicated phenomena, not only with most facility and precision, but also with the advantage of having constantly in our view the effects of proportion and temperature, those predominating agents of all chemical changes.

Influenced, doubtless, by such considerations, the professor of chemistry first deems it proper to point out the active powers impressed generally upon matter, and then discriminates and exemplifies the nature of chemical action. The laws of affinity are followed by those of repulsion, and the forms of this power in electricity, galvanism, caloric, light, receive all the consideration necessary for demonstrating its most important phenomena during the production of chemical combinations.

The most simple confineable substance, and at the same time the most powerful chemical agent, comes next under examination, and the student is made acquainted with oxygen. Conformably to the mode adopted in this course, are first shown the combinations of oxygen with simple inflammable substances, the newly-discovered metals being selected for the first example. The metals have a primary interest for the persons who chiefly frequent those lectures, and at the same time this subject connects the finest discoveries of the moderns with the most improved part of ancient chemistry.

But a principal motive with the professor for the early introduction of this part of the matter of his lectures, and the adoption of this arrangement, arises from its reserving a great portion of the interest of pneumatic experiments to be diffused over the remoter parts of his course, when, perhaps the application of his auditors begins to slacken, and they have most need of being amused while they are instructed.

The consideration of the newly-discovered metals necessarily brings on that of the alkalis and earths, but though it is shown that these are metallic oxydes, yet since they have strong peculiarities, and are extremely active in their chemical agencies, it is thought advisable to preserve in some measure the ancient distinction, and consider them as a separate order in their power of neutralizing acids, and forming saline compounds.

Ammonia is connected with the metallic oxydes by containing oxygen, and is strictly connected with the alkalis by its properties; at the same time that, from the nature of its compound base, it introduces the consideration of other simple substances. These are nitrogen and hydrogen, of which the examination naturally succeeds.

The union of oxygen with nitrogen forms atmospheric air, of which the chemical and physical properties are now investigated. A varied proportion of the same elements produces other important combinations, such as the nitrous oxyde and the nitric acid, &c. The constituent principles of the metallic, alkaline, and earthy nitrates having been hitherto examined, the combinations themselves are at this period easily understood.

The union of oxygen with hydrogen forms water, and water is again resolved into its elements by various processes of nature and art. These important phenomena are detailed; the nature of congelation, fluidity, vaporization, and latent heat is then fully developed.

The union of oxygen with carbone, sulphur, phosphorus, &c. is productive of an highly important class of acids, and these enter into an equally important order of combinations. They now find their place in a connected series.

After those acids of well known composition are placed the muriatic, the fluoric, and boracic acids, on the constitution of which there hang as yet some doubts and uncertainty. But in all cases their combination with the substances already known is exhibited to the student.

The chemical physiology of vegetables opens a different, a new, and a very interesting field, as well to the philosophical chemist as to the student of medicine. In this, which may be called the second part of the course, their proximate principles and combinations are duly considered.

The examination of animal substances is reserved to the latter part of these lectures. It takes up the varieties of animal matter, their chemical properties and combinations: It treats of those animal functions which may be illustrated by chemistry, and it concludes with the spontaneous changes which animal bodies undergo.

OF THE GENERAL AGENTS OF CHEMICAL ACTION.

Of Chemical Attraction, and the Laws of Chemical Changes.

Of Repulsion.—Electrical repulsion and attraction, and their relation to chemical changes; galvanic repulsion and attraction, and their relation to chemical changes; calorific repulsion; temperature and the instruments for measuring it; expansion by caloric; specific caloric of bodies; quantity of caloric evolved by combustion; the motion and communication of caloric; the temperature of the atmosphere.

Of Light, and its operation in producing chemical changes.

Of Oxygen, and its combination with simple inflammable bodies.—1*st. With the metals that produce alkalis.*

With Potassium.—Methods of obtaining potassium; properties of potassium; hydrat of potassa; subcarbonate of potassa; methods of obtaining the hydrat and subcarbonate; experimental proofs of the properties of potassium and potasia.

With Sodium.—Methods of obtaining sodium; properties of sodium; pure soda; hydrat of soda; oxyde of sodium; subcarbonate of soda and their properties.

2d. *The combination of oxygen with the metals that produce alkaline earths.*

With Barium.—Methods of obtaining barium; baryta and hydrat of baryta; methods of obtaining hydrat of baryta; salts of baryta; barytic mixtures.

With Calcium.—Methods of obtaining calcium; properties of calcia and hydrat of calcia; causticity; preparation of mortar and cements; calcareous mixtures.

With Magnesium.—Method of obtaining magnesia; properties of magnesia; salts of magnesia; magnesian mixtures.

With Aluminum.—Method of obtaining alumina; properties of alumina; gems, pottery, porcelain, chinaware; aluminous mixtures.

With Silicum.—Method of obtaining silica; properties of silica; glass; silicious mixtures.

With Strontium.

With Zircanium.

With Ittrium.

With Glucinum.

3d. *Of the combination of oxygen with the metals that produce oxydes.*

Oxyde of Manganese, gray, black.—Mineralogical history of manganese; analysis of the ores of manganese; properties and uses of the oxyde of manganese; method of obtaining manganese.

Oxyde of Zinc, calamine.—Mineralogical history of zinc; analysis of ores of zinc; methods of obtaining zinc; properties and economic uses of zinc; medicinal uses of the oxyde and salts of zinc.

Oxyde of Tin, tin stone, wood-tin ore.—Mineralogical history of tin; analysis of ores of tin; method of obtaining tin; properties and economic uses of tin; medicinal uses of tin.

Oxyde of Iron; magnetic iron stone, magnetical pyrites, loadstone, specular iron ore, hematites.—Mineralogical history of iron; sulphurets of iron; carburets of iron; argillaceous iron ores; analysis of ores of iron; properties of iron; properties of steel; method of converting iron into steel; economic uses of iron and steel; medicinal uses and preparations of iron.

Oxyde of Copper, mountain blue.—Mineralogical history of copper; analysis of ores of copper; properties of copper; economic uses of copper; medicinal preparations and salts of copper.

Oxyde of Lead, red-lead ore.—Mineralogical history of lead; analysis of ores of lead; method of obtaining lead; properties of lead; medicinal preparations of lead.

Oxyde of Antimony, the gray ore.—Mineralogical history of antimony; analysis of ores of antimony; properties of antimony; medicinal preparations of antimony.

Oxyde of Bismuth, bismuth ochre.—Mineralogical history of bismuth; analysis of ores of bismuth; properties of bismuth; medicinal preparations of bismuth.

Oxyde of Cobalt, black cobalt ore.—Mineralogical history of cobalt; analysis of ores of cobalt; properties of cobalt; economic uses of cobalt.

Oxyde of Mercury, native.—Mineralogical history of mercury; analysis of ores of mercury; properties of mercury;

medicinal preparations of mercury; method of detecting mercurial poisons; economic uses of mercury.

Oxyde of Silver, calciform silver ore.—Mineralogical history of silver; extraction of silver; analysis of ores of silver; properties of silver; silvering; plating; method of separating silver from copper; medicinal preparations of silver.

Gold.—Mineralogical history of gold; analysis of ores of gold; properties of gold; gilding; plating; cupellation; medicinal preparations of gold.

Platina.—Mineralogical history of platina; properties and uses of platina; method of obtaining pure platina.

Tellurium.—Mineralogical history of, &c. The same of *Nickel; Uranium; Osmium; Tungsten; Titanium; Columbium; Cerium; Palladium; Iridium; Rhodium.*

4th. Of the combination of oxygen with the metals that produce acids.

Oxyde of Arsenic, native.—Mineralogical history of arsenic; analysis of ores of arsenic; properties of arsenic; method of detecting arsenical poison; medicinal preparations of arsenic.

Oxyde of Chrome.—Mineralogical history of chrome; analysis of ores of chrome; properties of chrome; chromates.

Molybdena, &c.

Of Oxygen in combination with hydrogen and nitrogen.

Ammonia.—Methods of obtaining ammonia; properties of ammonia.

Of Oxygen in combination with *nitrogen only.*—Atmospheric air; analysis of; its chemical and physical properties; nitrous gas; nitrous oxyde; nitric acid; eudiometry; nitrates.

Of Oxygen with hydrogen only.—Water, in the state of ice; in the fluid state; in the state of gas.

Of Oxygen in combination with *carbon.*—Carbonic oxyde: carbonic acid; carbonates.

Of Oxygen in combination with *sulphur.*—Sulphurous oxyde; sulphurous acid; sulphuric acid; sulphates; sulphites; sulphurets; sulphuric æther.

Of Oxygen in combination with *phosphorus.*—Phosphorus acid; phosphoric acid; phosphates; phosphites; phosphurets.

Of Hydrogen, and its combination with simple inflammables.

Of Hydrogen in combination with *carbon.*—Olefiant gas; carburated hydrogen.

Of Hydrogen in combination with *sulphur.*—Sulphurated hydrogen; hydrosulphurets; supersulphurated hydrogen, and its compounds.

Of Hydrogen in combination with *phosphorus.*—Phosphorated hydrogen gas.

Of Muriatic Acid.—Muriates; metallic, alkaline, earthy.

Of Chlorine.—Hyperoxymuriates; alkaline, earthy, bleaching.

Of Fluoric Acid.—Fluates; metallic, akaline, earthy.

Of Boracic Acid.—Borates; metallic, alkaline, earthy.

Of the Chemical Physiology of Vegetables.

Of Vegetation.—Germination; the food of plants; motion of the sap; functions of the leaves.

Of the proximate principles of Vegetables.—Of gum; of fecula; sugar; honey; gluten; gelatine; caoutchouc; birdlime; wax; fixed oil; volatile oil; camphor; resin; gum-resin; balsam; extract.

Of Tannin.—Preparation of tannin; combination of tannin with gelatin;—tanning;—with alkalis; with earths; with oxydes; with acids; species of tannin.

Of Gallic Acid.—Preparation of gallic acid; properties of gallic acid; gallates.

Of Prussic Acid.—Preparation of prussic acid; properties of prussic acid; prussiates.

Of Citric Acid.—Preparation of citric acid; properties of citrid acid; citrates.

Of Malic Acid.—Preparation of malic acid; properties of malic acid; malates.

Of Oxalic Acid.—Preparation of oxalic acid; properties of oxalic acid; oxalates.

Of Tartaric Acid.—Preparation of tartaric acid; properties of tartaric acid; tartrites.

Of Acetic Acid.—Preparation of acetic acid; properties of acetic acid; medicated vinegars; acetites; acetic æther.

Of the formation of Animal Substances, and of Animal Products.—Of the blood; of the chyle; of the lymph, saliva, pancreatic and gastric fluids; of the bile and biliary calculi; of urine, urea, and urinary calculi; of fibrin; of skin, celular fibre, membrane, tendon, ligament, cartilage, bone, and shell.

Of the Functions of Animals.—Of digestion; of respiration; of assimilation; of the decomposition of animal bodies.

The Lectures on Chemistry are delivered four times a week throughout the session.

NATURAL HISTORY.

The subjects of this extensive course are divided by Professor Mitchill into distinct heads, after the following arrangement: He begins with the history of the earth, as a planet or integrant portion of the universe. I. It is divided into four parts: 1. *Cosmogony*, embracing the doctrines relative to the origin of the world. 2. *Geognosy*, or the account of the changes it has undergone in the chaotic state,

during the deluge, and since that event. Its constituent parts viewed under five divisions ; (*a*) *Primæval*, or such as were formed at the creation, or deposited from chaos immediately after, such as syenite, topaz-rock, quartz-rock, primitive flint, slate granite, gneiss, micaceous slate, argillaceous slate, serpentine, with primitive lime-stone, gypsum, and trapp. (*b*) *Transition*, or such as were formed when a further subsidence from the original medley of things took place, of which, transition-lime-stone and trapp, gray wacke, flinty slate, and transition gypsum, are examples : (*c*) *Flat or secondary*, to wit, sand-stone, low stratified lime-stone, gypsum and trapp, rock-salt, chalk, and coal : (*d*) *Alluvial*, formed more recently still by settlement from water, constituting the bottoms of valleys and level spaces between mountains, as well as the chief constituents of widely extended plains. (*e*) *Volcanic*, or the products of subterraneous fire, comprehending lava, slag, ashes, scoriæ, &c. In this arrangement, he follows the system of the distinguished German, Professor WERNER. He is a firm Neptunian, and examines at great length, the operation of water in giving configuration of the globe. 3. *Mineralogical Chemistry*, or an explanation of the properties of matter, attractive and repulsive, by which its different forms and modifications are effected. 4. *Physical Geography*, or an account of the actual condition of the globe, as to land and water, mountain and valley, continent and island, mine and surface. This section of the course is denominated *Geology*.

II. The history of *light*, as the most copious of created existences, and occupying the widest space in the universe. It is considered as a body rendered fluid by means of heat or caloric, like other bodies, and like them, giving out its heat on its decomposition. A review is given of the modern discoveries by Bancroft, Herschell, Ritter, and Wollaston, rendering it necessary to enlarge and reform the doctrines

of Newton, and inclining him to the belief, that the sun-beam consists of two ingredients, *colour* and *caloric*. Hence is deduced a theory of colour and heat as evolved from light by its decomposition, and imparting to every thing its proper hue and temperature. White is considered a chemical, and black a mechanical assemblage of all colours; and Rumford's considerations on the black clothing, furs and skins of animals, and on the black coating of other bodies in relation to heat, are exhibited to strengthen this argument. The analogy between light and sound is traced, to show the doctrine embraced by some, that impulse or vibration may be of great efficacy in bringing about the phenomena of light. This part of the course is termed *Photology*.

III. Heat is next considered, and its natural history attempted. A great source of it is the sun-beam, or chemical compound of colour and light. Another copious source of it is the oxygenous fluid of the atmosphere, or phos-oxygenous gas as it ought to be called. If the sun-beam becomes associated with oxygen, it forms the compound, erroneously called oxygenous air. It is really a solution of oxygen in fluid light, and on the resolution of this compound into its constituent parts, heat, light, oxygen and colour come forth. After considering the mechanical and chemical theories of fire, a preference is given to Pictet's arrangement of the facts under four heads, to wit, the free, latent, specific, and fixed forms of heat. Its effects are considered as producing contraction, expansion, liquidity, fluidity, fusion, and as the great stimulus to vegetable and animal life. The plutonic hypothesis is examined and rejected. This branch of the course is called *Pyrology*.

IV. The history of water is the next subject of Professor MITCHILL's discussion. It is the great agent in effecting the changes the earth has undergone. The proofs are stated of its having covered the mountains, and of its separation

from the materials with which it was anciently blended, forming thereby the stratification illustrated under the head of Geology. Reasons for supposing the waters of the globe to have undergone a diminution; 1. In the formation of crystalline bodies; 2. In the constitution of the atmosphere; 3. In the formation of plants; and, 4. In the organization of animals. By these processes, an immensity of the water which existed at the flood is converted into solid forms, and a correspondent shrinking of the ocean has ensued. In these natural and easy ways, is the problem solved, which the ingenious Jamieson gives up in despair, that is, what has become of the surplus water that once deludged the world? The primitive inundation having thus subsided, the question is examined, whether the quantity of water is yet diminishing, as some of the modern philosophers think; considerations are offered in favour of such a belief, in consequence whereof, preparation is making for the final consummation of terrestrial affairs by fire. Waters apparently rushed from the south, according to Kirwan's doctrine. Questionable whether water can be decomposed as the fashionable chemists think, and whether it is not an element, as the ancients and Priestley contended. It is divisible into three historical section. 1. Salt water, such as saline or briny fountains, the ocean, the Mediterranean, Euxine, Caspian, and Judean seas; and the Nitrian and Mexican lakes. 2. Fresh water, such as the fluid of rain, dew, snow, and hail; spring or fountain water; river water, and the liquid of the great American lakes, as well as of many more inland collections of water. 3. Mineral water, such as the acidulous springs of Ballstown, charged with carbonic acid; the sulphureous springs of Clifton, in Ontario county, exhaling hepatic gas, and deposing brimstone; the thermous springs of Lebanon, which are of a temperature fitting them for an exquisite bath; the chalybeate springs of many places in our granite coun-

try. These inquiries, with a multitude of explanations concerning tides, currents, alluvions, and solutions, are distinguished by the title of *Hydrology*.

V. The globe having been thus viewed, as to its geological structure, the effects wrought upon it by light, heat, and colours, and lastly, in respect to the alterations it has sustained by means of water, the next view taken of it relates to its atmosphere. The idea of Lavoisier is here adopted, that every thing which the heat of its surface can convert to air or gas, makes a portion of the sphere of vapours encircling our planet. The views of Professor MITCHILL, relative to the atmosphere, with a theory of the winds, and an abundance of other particulars, are summed up under the name of *Aerology*.

VI. *Mineralogy* is the sixth division of the subject, and comprehends the classification and particular description of those substances that were mentioned in a general and comprehensive way, under the head of *Geology*. On account of the very recent discoveries, which have enriched and ennobled science, Professor MITCHILL has found himself obliged to discard the quadruple arrangement of minerals, by Bergman, into earths, metals, salts, and inflammables. Although this distribution had received the respectable sanction of Cronstedt, Magellan, Kirwan, and the chief of the modern worthies who have cultivated an acquaintance with fossils, yet its incompatibility with the present state of facts and observations render it absolutely improper to adhere to it any longer. That fourfold classification, was the most scientific and luminous that had been thought of, and was well worthy of the fond reception it met with. But it is now time to change it for a better ; for one which is framed and erected on the actual relations of minerals, as now understood. The arrangement he proposes is grounded on his own views of this department of knowledge, and on the

penetrating discoveries of Professor Davy. The prominent features of these joint and concurring testimonies are, the relations which mineral, and especially metallic bodies, have to *Phlogiston*, and to *Oxygen:* to which may be added, their relations to *Sulphur*, to *each other*, and to *Acids*.

1. The first class comprehends minerals, as combined with phlogiston, (or hydrogen.) Among these are the metals in their *reduced state*, as it is termed; that is, the one in which they possess splendour, malleability, and ductility: sulphur, in its ordinary condition; coal, when affording flame as it consumes; phosphorus, when burning with blaze: among the metals, it is proper to observe, that potash, soda, ammoniac, lime, barytes, magnesia, alumine, and silex, are reckoned, as well as the substances heretofore ranked as metals.

2. In the second class are contained minerals, as combined with oxygen. All *metallic oxyds and acids* are comprehended in this division; such as those of lead, iron, &c. as commonly received, and likewise, the alkaline salts and earths, argillaceous and siliceous earths, &c. in their states wherein they commonly exist, making the principal and solid materials of the globe. Modern science has demonstrated that these are chiefly metallic oxyds. The oxyds of carbone come under this head; including all the modifications of incombustible coal.

3. Minerals united to sulphur, make the third class; constituting all manner of pyrital combinations; all sulphurs and sulphurets; and in short, every one of the numerous combinations, denominated *Ores*, by intervention of brimstone.

4. *Amalgams and Alloys* form the fourth class of mineral bodies. They comprehend all the mixtures of metallic substances with each other. Thus glass is an alloy of two metals, potash and flint; stone-ware an alloy of clay, flint, and iron, under other modifications; and the like applies to bricks,

tiles, and other mixtures, heretofore deemed earths, but now shown to be metals. All the alloys of the metals, as usually understood, such as the mixtures of gold and silver, &c. with copper, mercury &c. come under this head, of course.

5. Minerals, as related to acids, make a fifth class. Of these, the acetates of lead and copper, forming the saccharum saturni, and verdigris of the shops, are examples; as are also the sulphates of iron, zinc, lime, barytes, soda, potash, and in short the entire section of the salia acido-metallica.

VII. *Botany* is the next division of this course. It comprises all the vegetables which overspread the face of the earth, under two great aspects. 1. Their history as individuals of the animated creation, including their origin from seeds and germs, through the whole of their increase to their inflorescence and fructification, and the formation of seeds and germs again. This comprehends their anatomical, physiological, pathological, and economical character and uses. 2. Their Classification; which being explained according to the Sexual or Linnæan arrangement, is too well understood to be here enlarged upon. In his illustrations of this part of the course, the professor avails himself of the advantages afforded by the State Botanic Garden.

VIII. In his *Zoology*, Professor MITCHILL follows the plan of Cuvier, as explained and detailed by Dumeril. The distribution of the animal race into the nine classes of Mammalia, birds, reptiles, fishes, molluscas, crustacea, insects, worms, and zoophytes, seemed preferable to any other, because it embraces both their anatomical structure and their external characters. For, by thus seizing all the points of resemblance which the outward form and inward organization afford, animals of similar natures may be grouped together; while by noting all the circumstances of discrimination, that external and internal marks present, the creatures of dissimilar configuration and appearance may be kept asunder.

In this copious and fertile field of discussion, the human race is considered. He distributes the single species, man, as descended from the first original pair, into six races: 1. The Caucasian or European. 2. Hyperborean or Laplander. 3. The Mongol or Tartar. 4. The American; that is, the South American. 5. The Malay or Philippine; and 6. The Ethiopian or Negro. As to the Aborigines of North America, he considers them as composed chiefly of two races: the Hyperborean, No. 2. which came in by the route of Greenland, and the arctic regions from the east: and of the Tartar, No. 3. which entered by the way of Alaska, from the west. And he supposes that the genuine American form and feature, are only to be found in the south.

IX. The ninth and last division of this course, is termed *Uranology*. As in the former sections, terrestrial objects are treated of at great length; so in this, it is intended to exhibit what is known of the Heavens. It is comprehended under three heads, to wit: 1. The history of the Copernican system; comprehending the sun, the planets, satellites, asteroids, and comets: 2. An account of the sidereal system, or of the fixed stars which constitute the celestial firmament, of worlds innumerable, distributed through immeasurable space, according to Herschell's researches: and, 3. The way in which stars were, among the pastoral tribes of Asia, parcelled into constellations; and particularly how, for the purpose of tracing and describing in a clearer manner the sun's course along the ecliptic, the zodiac was invented. Dr. MITCHILL concludes with the history of the twelve signs; and professes his endeavour to infuse in his discourses, as much as he possibly can, of the spirit which animates the writings of Ray, Derham, Smellie, Fontenelle, Pluche, and Saint Pierre.

The Lectures on Natural History, commence the beginning of May, and are delivered *daily* for nearly three months.

CHARTER OF THE COLLEGE.

WHEREAS since the establishment of the COLLEGE OF PHYSICIANS AND SURGEONS, of this state, by charter, dated March the twelfth, one thousand eight hundred and seven, it has been found necessary at several times to alter and amend the said charter: *And whereas* it has now become expedient for the better government of the said College to collect into one, the original and supplementary charters, and to amend the same so as to give greater stability and respectability to that institution; *Therefore be it ordained*, by virtue of the act, entitled, "An Act to enable the Regents of the University to establish a COLLEGE OF PHYSICIANS AND SURGEONS within this state," passed the 24th of March, 1791, and we do by these presents ordain, grant, and declare, That all such persons named in the original charter, who did, according to an ordinance passed by us the Regents of the University of the state of New-York on the 3d day of March, 1808, declare in writing, (on or before the first day of May, in the year 1808,) their acceptance of the appointment of member or trustee of the said College; and that they would each of them, to the best of their abilities, endeavour to promote the usefulness of the said College, and faithfully execute the duties required of them respectively as members or trustees of the said College, together with *Samuel Bard, Benjamin De Witt, John Augustine Smith, David Hosack, William James M'Neven, Samuel L. Mitchell, John D. Jaques, Thomas Addis Emmet, Lyman Spalding, Andrew Morton, Andrew Hunt*, and *Joseph Bloodgood*, be, and hereby are constituted a body corporate and politic, in fact and in name, by the name of the "COLLEGE OF PHYSICIANS AND SURGEONS in the city of New-York." And that they and their successors shall have perpetual succession, and by that name shall be in law capable to sue and be sued, plead, and be impleaded, answer and be answered unto, defend and be defended in all courts and places, and in all matters and causes whatsoever; and to purchase, take, hold, and enjoy, and have lands, tenements and hereditaments, and real estate in fee simple or for term of years, or lives, or any other manner whatsoever; and also goods, chattels, books, money and all other things of what na-

ture soever: *Provided always*, that such estate, as well real as personal, which the said College is and hereby are authorized to hold, shall not exceed the sum of one hundred and fifty thousand dollars, current money of this state; and that the members or trustees of the said College shall have a common seal, and may alter and renew the same at pleasure. *And be it further ordained*, granted, and declared, that *Samuel Bard, Benjamin De Witt, John Augustine Smith, David Hosack, William James M'Neven, Samuel L. Mitchill, John D. Jaques, Thomas Addis Emmet, Lyman Spalding, Andrew Morton, Andrew Hunt*, and *Joseph Bloodgood*, and such other persons as we or our successors may hereafter appoint, *provided* the whole number shall not at any time exceed twenty-five, shall be trustees of the said COLLEGE OF PHYSICIANS AND SURGEONS, and that a majority of their whole number at any time resident in the city of New-York, shall form a quorum for the transaction of business, and shall and may meet together on the first Tuesday in May, and on the first Tuesdays in August, November and February in every year, and that on the days of these anniversary and quarterly meetings, but at no other time, they, the said trustees, may enact such by-laws, rules and regulations relative to the affairs and property of the said College, and relative to the duties of their president, vice-president, professors, treasurer, registrar, and other members as they, or a majority of them so met at such annual or quarterly meetings, may think fit and proper: *Provided*, that such by-laws, rules and regulations be not contrary to, or inconsistent with the constitution and laws of this state or the United States; and such by-laws, rules, and regulations, having first received our consent and approbation, and confirmation, shall be and remain the by-laws, rules, and regulations by which the said College shall be governed, and shall not be annulled, abrogated, or repealed but by and with the consent of the majority of the trustees of the said College, and by and with the approbation of us the said Regents. And the Registrar of the said College shall provide a book in which he shall make an entry of all the resolutions and proceedings which may be had from time to time, and also the annual reports relative to the state of the treasury,

and all such other things as a majority of the trustees of the College assembled, shall think proper; to which any member of the College may at any time have recourse: and the same, together with all books, papers, and records which may be in the hands of the registrar, and be the property of the College, shall be delivered to his successor in office. And the treasurer of the said College shall receive and be accountable for all monies which shall come into his hands, and shall pay the same in such manner as may be directed by a majority of the board of trustees, convened at their anniversary or quarterly meetings, and by a warrant for that purpose signed by the president or vice-president. *And be it hereby further ordained*, granted, and declared by us, that the trustees of the said College shall, as far as they are able at all times, provide suitable apartments or lecturing rooms for all such professors as shall hereafter be appointed by us in and for the said College, which Professors shall have the stile and title of Professors of the University of the state of New-York, for the COLLEGE OF PHYSICIANS AND SURGEONS: and that all the members of the said College shall be privileged at all times to attend, inspect, and notice all lectures or other modes of teaching by Professors in the said College, appointed by us; and that in case of the death, or resignation of any professorship, or other vacancy in the said College, a majority of the trustees, at any of their meetings, may appoint lecturers in any branch of medicine, or of the sciences connected therewith, until such time as our pleasure be known respecting the same, or a professor be appointed by us. *And be it hereby further ordained*, granted, and declared, that the board of trustees of the said College, as well as the subordinate board of President and Professors, shall carry and put into effect all our ordinances respecting the said College, as well with respect to education as all other matters and things, and shall pay due attention to establishing and preserving, for the use of the said College, an anatomical museum, chemical apparatus, and botanical garden, and shall make an annual report to us in writing, or to the Chancellor of the University, in the month of January, in every year, respecting the funds and property of the said College, and all matters and things relative

to the said College and the Students and Professors thereof. *And be it further ordained*, That the President or Vice-President, or in the absence of both, the senior Professors, and any three of the trustees, may at any time call a meeting of the trustees of the said College for the transaction of ordinary business, by giving in writing, to each trustee, who shall be in the city of New-York, three days notice of the time and place of holding the said meeting; and that five of the said trustees so met, (of which the President, Vice-President, or senior Professor shall always be one,) shall be a quorum. *And be it further ordained*, That *Samuel Bard*, M. D. shall be President of the said College; and that *Benjamin De Witt*, M. D. shall be Vice President; and that *John Augustine Smith*, M. D. shall be Professor of Anatomy, Surgery, and Physiology; and that *David Hosack*, M. D. shall be Professor of the Theory and Practice of Physic and Clinical Medicine; and that *William James M'Neven*, M. D. shall be Professor of Chemistry; and that *Samuel L. Mitchill*, M. D. shall be Professor of Natural History; and that *John D. Jaques*, shall be Treasurer; and that *John W. Francis*, M. D. shall be Registrar of the said College, and accordingly they are hereby respectively appointed to the stations and offices as annexed to their names. *And we do further ordain*, give, and grant to the said College, that we will constitute and appoint no new Professorship in the said College, or abrogate or annul any of the present Professorships, nor remove either of the Professors of the said College now appointed or to be hereafter appointed, until notice shall have been given to the board of trustees of such intended new appointment, or abrogation, or to the person intended to be removed, of such intended removal, at least one month before such intention shall be carried into effect. *And be it further ordained*, That it shall be the duty of the President and Professors of the University for the COLLEGE OF PHYSICIANS AND SURGEONS, at any ordinary meetings appointed for that express purpose, and of which meeting the trustees of the said College shall have notice and may attend, to examine all candidates for the degree of Doctor of Medicine in the said College, and to recommend from time to time such students as a majority of the trustees present shall deem qualified and worthy to receive the

degree of Doctor of Medicine. And the Regents do hereby give and grant to the said College, that they will take into consideration the propriety of granting diplomas, for conferring the degree of Doctor of Medicine upon such students as shall be so recommended, and to none other of the students of the said College. Finally, *We do ordain*, grant, and declare, that the said tustees, fellows, and members of the COLLEGE OF PHYSICIANS AND SURGEONS in the city of New-York, and their successors forever, shall enjoy all the corporate rights, privileges, and immunities which are hereby granted: And that the by-laws, ordinances, and regulations heretofore passed by us, and ordained, and which not having been repealed, and which are not repealed by this charter, but are now in force, shall continue to be the by-laws, ordinances, and regulations for the government of the said College, until they shall be repealed, or new ones ordained, according to the tenor and ordinances of this charter; and all other laws, ordinances, and regulations, and all former charters or supplementary charters granted by us to the said COLLEGE OF PHYSICIANS AND SURGEONS are hereby repealed.

And be it further ordained, That the members of the said College, who are not by this charter constituted trustees, shall be Fellows, and that the trustees shall have power to elect fellows or members of the said College, who shall at all times have the privilege of attending all the public lectures and other courses of instruction delivered by the Professors in the said College, and who shall also have the privilege of visiting and inspecting the anatomical museum, the botanic garden, the cabinets of mineralogy and natural history and the library of the said College, under such regulations as the trustees shall prescribe for that purpose.

IN testimony whereof, we have caused our common seal to be affixed to these presents, the fourth day of June, in the year of our Lord one thousand eight hundred and twelve.

(Signed) DANIEL D. TOMPKINS,
Chancellor of the University.

FR. BLOODGOOD, *Secretary.*

Medical Commencement in the University of New-York.

The annual Medical Commencement for the purpose of conferring the degree of Doctor in Medicine in the College of Physicians and Surgeons of this city, took place on Tuesday, the 4th of May, 1813. The exercises of the day were held at the College buildings in Pearl-Street, where, in the absence of the President and Vice-President, the honours of the institution were publicly conferred by Dr. HOSACK. The degree of *Doctor of Medicine* was granted to the following gentlemen, who had undergone the requisite examinations prescribed by the college, and defended the inaugural dissertations annexed to their names.

ANDREW ANDERSON, A. B. of the city of New-York, "*On the Eupatorium Perfoliatum of Linnæus.*"

HENRY BOGERT, A. B. of Albany, N. Y. "*On Angina Pectoris.*"

JACOB DYCKMAN, A. B. of New-York, "*On the Pathology of the Human Fluids.*"

HENRY MARSHALL, of Delaware county, N. Y. "*On the Febrile and other Diseases of the county of Delaware, New-York.*"

ELIJAH MIDDLEBROOK, M. B. of Connecticut, "*On the Nature and Treatment of Tetanus.*"

Election in Columbia College.

Robert Adrain, Esq. Professor of Mathematics in Queen's College, New-Brunswick, was elected, on the 4th of May, to the professorship of Natural Philosophy and Mathematics in Columbia College.

Quarterly Report of the Diseases which prevailed in the city of New-York, during the months of April, May, and June, 1813.

The city of New York has been unusually healthy during the last three months. *Fevers*, strictly so called, with the exception of intermittents, have been comparatively few in number.

The *malignant pleurisy, peripneumonia typhodes*, described in the concluding number of the last volume, we are happy to state, has at length totally disappeared. A few cases, however, occurred in the month of April. In these, as in those noticed in our account of the diseases of the winter and first spring month, it exhibited the same compound character that had distinguished its first appearance, and required the same alterative treatment and cautious use of the lancet that have already been recommended.

In the present number, we present to our readers a valuable paper on this interesting subject by Doctor Low, of Albany, who has had frequent opportunities of observing the disease he has so minutely described. This document, with many others contained in the Register, affords the most ample testimony of the mixed character of the disease, and the peculiar treatment it demands ; that, as we have before remarked, it is neither purely inflammatory nor exclusively attended with the symptoms of typhus, but compounded of both, as has frequently been observed of some other diseases, viz. cynanche maligna, scarlatina, yellow fever, dysentery, and puerperal fever,* the history of which is recommended to some of our pamphleteers and anonymous newspaper scrib-

* See Dr. Gordon's account of puerperal fever, as it appeared in Aberdeen.

blers, who have undertaken to describe the epidemic referred to, but who appear yet to be unacquainted with the first principles of their profession.

Among the various opinions entertained relative to the proximate cause of this disease, there is one which ascribes it to the *liver* as its seat and source! We offer for the consideration of the advocates of this extraordinary opinion, the following fact: A gentleman of this city who had long laboured under a disease of the liver, and had recently suffered severe attacks of inflammation of that organ, was taken ill with the disease in question, in the month of April last; yet, strange to tell, throughout the whole course of his complaint, his liver remained totally unaffected, although his lungs and vascular system exhibited the usual symptoms of the epidemic, and in a very violent degree.

We admit the success of the practice recommended by Dr. Yates; but, in our opinion, the good effects of the remedies he prescribes, viz. emetics, cathartics, are much more satisfactorily to be accounted for by their general operation upon the excretions of the system, than by their exclusive action upon the liver and gall bladder.

"My whole attention, says Dr. Yates, is confined to a removal of the morbid bilious secretions which are unquestionably collected and continue pouring into the gall bladder;" but of this unsatisfactory doctrine, we have, on a former occasion, expressed our opinion, and which derives confirmation from the observations of Dr. Eights, contained in his paper published in the present number.*

The *measles*, which we noticed in our last number as prevailing in this city, has also, in a great degree, disappeared. But an eruptive disease in many respects resembling the measles, has prevailed to a considerable extent during the

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* See page 87.

last three months. Such was the resemblance it bore to the measles in its invasion, the character and extent of the eruption, that by many it was called the French measles. It, however, differed from the measles (rubeola vulgaris) in several particulars. The fever preceding the eruption, was very inconsiderable in degree, and of short duration, not more than twenty-four hours; and in some few cases the eruption appeared without any preceding fever; the eruption itself generally disappeared at the end of the second or beginning of the third day; the eyes were rarely affected with it as in measles, and in no cases as in the latter disease, was it attended with cough or oppression, excepting such as are attendant upon most febrile complaints. In several cases this disease occurred in children, who, some time afterwards, were attacked with the measles, attended with all its characteristic symptoms, and in other instances, adults who were certainly known to have had the measles in early life, were the subjects of this eruptive complaint.

Is it not the same species of disease that has been noticed by Dr. Willan, under the appellation of *rubeola sine catarrho*, "which," says that author, "does not appear to emancipate the constitution from the power of the contagion, nor to prevent the accession of the rubeola vulgaris at a future period, for (he adds) two instances of this recurrence being among my own children, and at an interval of two years, I can decidedly answer."* It is probably the same species of rubeola that has been observed by Rosen, Morton, Tozzetti, Robordiere, and Professor Spielman,† and which has given rise to the opinion, that the real measles, rubeola vulgaris, may be taken a second time; an error into which Dr. Willan himself appears to have fallen.

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* See Willan's Cutaneous Diseases, p. 235. Also his Diseases of London, p. 207.

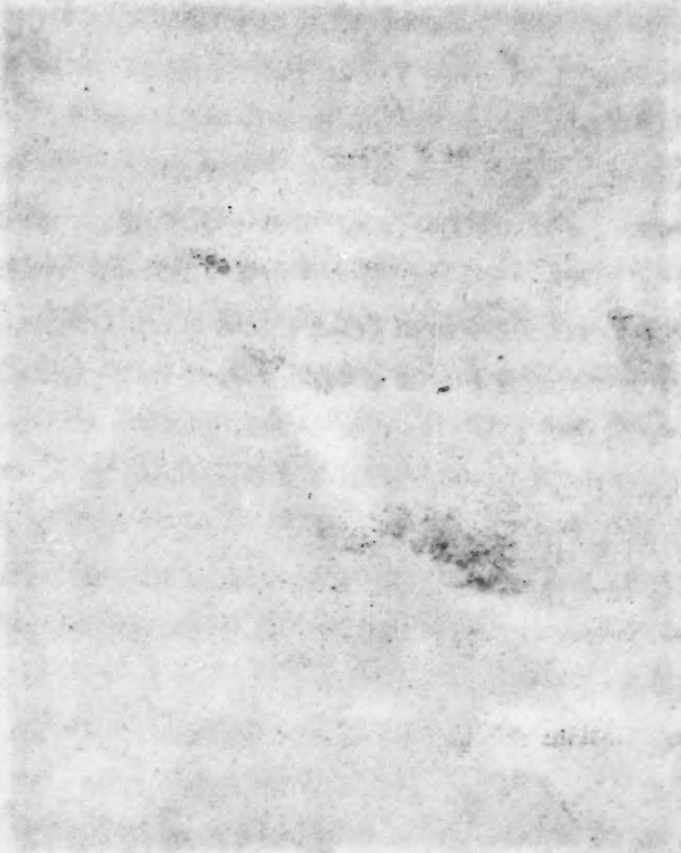
† See Burserius, vol. ii. p. 447.

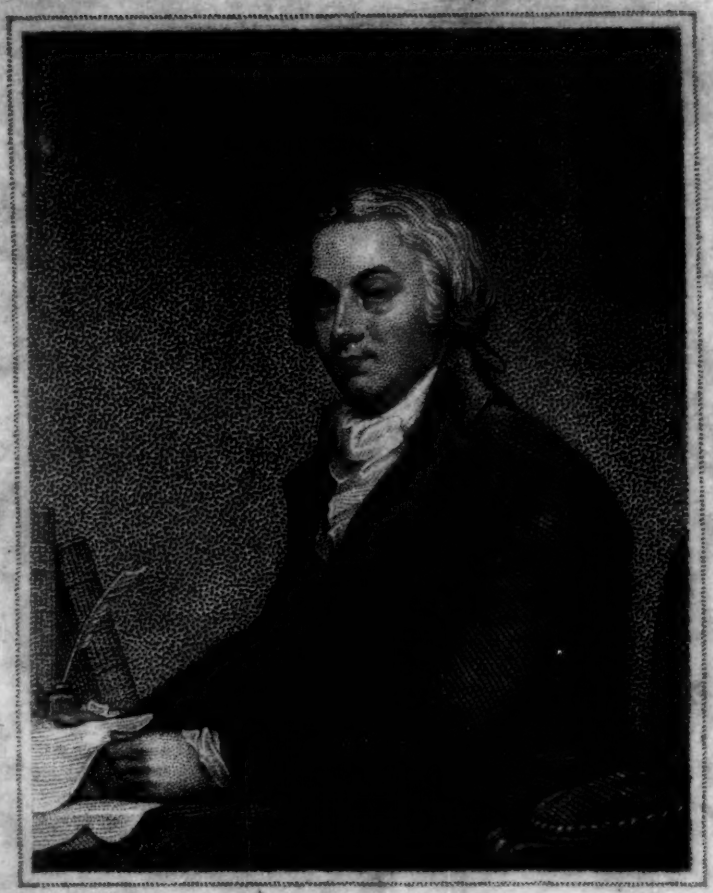
Inflammatory diseases appeared as usual. Among these *ophthalmia* has been more than ordinarily prevalent; bloodletting, cathartics, blisters behind the ears, bathing the eyes with warm milk and water frequently throughout the day, and a soft light poultice of bread and milk (contained between a fold of cambric or old linen) applied going to bed, were the remedies we found most useful during the first stage of this disease; but as soon as the pain, heat, and other symptoms of inflammation began to subside, great advantage was obtained from a cold collyrium composed of a solution of the sulphate of zinc and rain water, two grains of the former to an ounce of the latter: this was applied six or eight times a day. In some instances, in the second stage of the complaint, a weak mixture of brandy and water applied cold, was also found beneficial both in diminishing the sensibility of the eyes and in restoring the tone of its vessels. We are aware that this is not the usual treatment of this disease, and that cold saturnine applications are usually resorted to by most practitioners, in the first stages of ophthalmia as well as other local inflammations. We have long since had reason to disapprove of this practice; for in most cases we have remarked, that in membranous inflammation of the eyes, the pain in the ball during the first stage of the disease has been increased, and the secretion from its surface sensibly diminished by cold applications. In like manner, in *ophthalmia tarsi*, the inflammation is manifestly aggravated by the use of cold astringent washes. But these observations are not only applicable to the use of lead water and other cold applications in inflammations of the eyes: we observe the same abuse to exist in the treatment of gonorrhœa, inflammation of the testis, and in recent injuries of the joints, as strains of the ankle, knee, &c.

In *gonorrhœa* lead water is the usual prescription, especially of young practitioners. The writer of this article.

many years since became acquainted with the pernicious consequences of that injection. Indeed, in every case of gleet following gonorrhœa, for which he has been consulted within twenty years past, he has, without a single exception, traced it to the debilitating sedative effects of that metal. Most cases too of the inflamed testis, which he has seen attendant upon gonorrhœa, have been produced by the same cause, viz. the too early and sudden check of the secretions of the urethra by the use of lead injections. In gonorrhœa as in inflammation of the eyes, his treatment of the first stage consists chiefly in abstinence from stimulant drinks and animal food, the free use of barley water, lemonade, and other diluents, mild cathartics, and other evacuants where they are indicated, bathing the part affected with warm water, or the use of the warm bath; and after the pain, ardor urinæ, and other symptoms of inflammation have somewhat subsided, the use of an injection of a solution of the sulphate of zinc from two to four grains to an ounce of rain water, employed six or eight times a day until the purulent discharge has totally disappeared. In like manner in the treatment of an *inflamed testis*, instead of cold saturnine applications, he has for many years past, in addition to the usual antiphlogistic means, employed tepid fomentations of vinegar and water, with the most beneficial consequences.

In the *inflammation of the capsular ligaments*, the effect of strains, the same practice is recommended until the pain, tumour, and inflammation are removed. When debility alone remains, and the parts are free from irritation, cold applications of vinegar, water, or spirituous liniments, may then be advantageously prescribed; but with many physicians a different practice prevails. Instead of warm, cold applications are directed from the very commencement of the injury, and which rarely fail to stiffen the joint, to increase the pain, and ultimately to add to, instead of diminishing the inflammation.





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